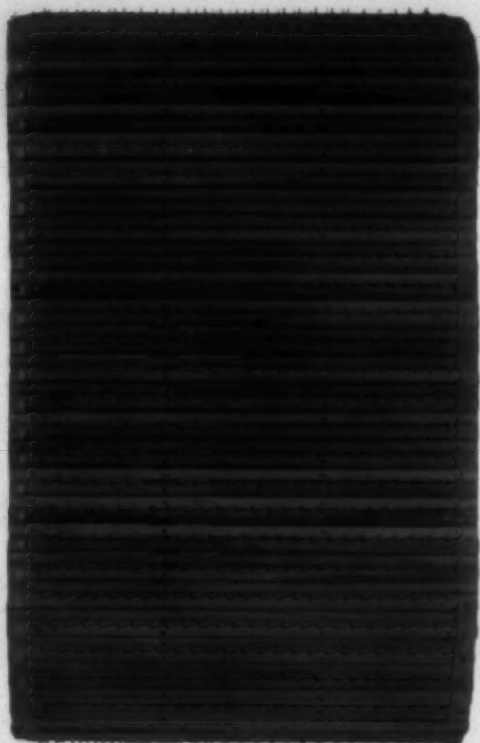


TEXTILE BULLETIN

VOL. 64

MAY 15, 1943

NO. 6



It's NEW!
It's DIFFERENT!
It's BETTER!

TROY WHITEHEAD MACHINERY CO.

*proudly present their latest development
in Textile Aprons*

Hopper Feeder Apron No. 8-11

MADE WITHOUT THE USUAL CANVAS BACK
By Using No. 8 Spiked Slat Alternating with No. 11 Plain Slat

Elimination of the Canvas Back Reduces the Collection of Lint and Thus Lessens Fire Hazard

Hopper Feed Apron No. 8-11 has been thoroughly tested in some of the South's largest mills and has more than justified our expectations

Full particulars on request

QUICK DELIVERY - APRONS FOR STANDARD MACHINES IN STOCK

TROY WHITEHEAD MACHINERY COMPANY

Phone 3-9831

CHARLOTTE, N. C.

P. O. Box 1694



They Deserve the BEST!—

in guns, and ships,
and tanks and planes—
and **CLOTHING** too

Nothing is too good for the men who are serving in the armed forces of our country and it is important that all fabrics used for military purposes measure up to the same high standard as the weapons with which they are fighting.

But no textile mill can make high quality fabrics from inferior yarns. And inferior yarn quality is often due to defective travelers.

U. S. Ring Travelers are the most dependable, the most uniform in weight and temper, that technical craftsmanship can produce. They will contribute, more than any other single factor, to a quality product in your mill, and at the same time will save you money.



Free Samples on Request

U. S. Ring Traveler Company

AMOS M. BOWEN, Pres. and Treas.

Providence, R. I.

Greenville, S. C.

A Traveler for Every Fibre

Published Semi-Monthly by Clark Publishing Company, 218 W. Morehead St., Charlotte, N. C. Subscription \$1.50 per year in advance. Entered as second-class mail matter March 2, 1911, at Postoffice, Charlotte, N. C., under Act of Congress, March 2, 1897.

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P. O. Box 14

NASHVILLE, TENNESSEE
537 Third National Bank Bldg.

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REPRINT

ROCKFORD MORNING STAR

TUESDAY, SEPTEMBER 3, 1940

Water Tank Collapse Kills Five



BEWARE

Investigate Tank Erection and Maintenance Companies thru your Bank, War Production Board, Dun & Bradstreet, Inc., or the F.B.I. before you have your tank worked on.

Complete SERVICE FOR ELEVATED WATER TANKS

23 Years Experience

PROTECT YOUR INVESTMENT



Be Safe

Don't Gamble!

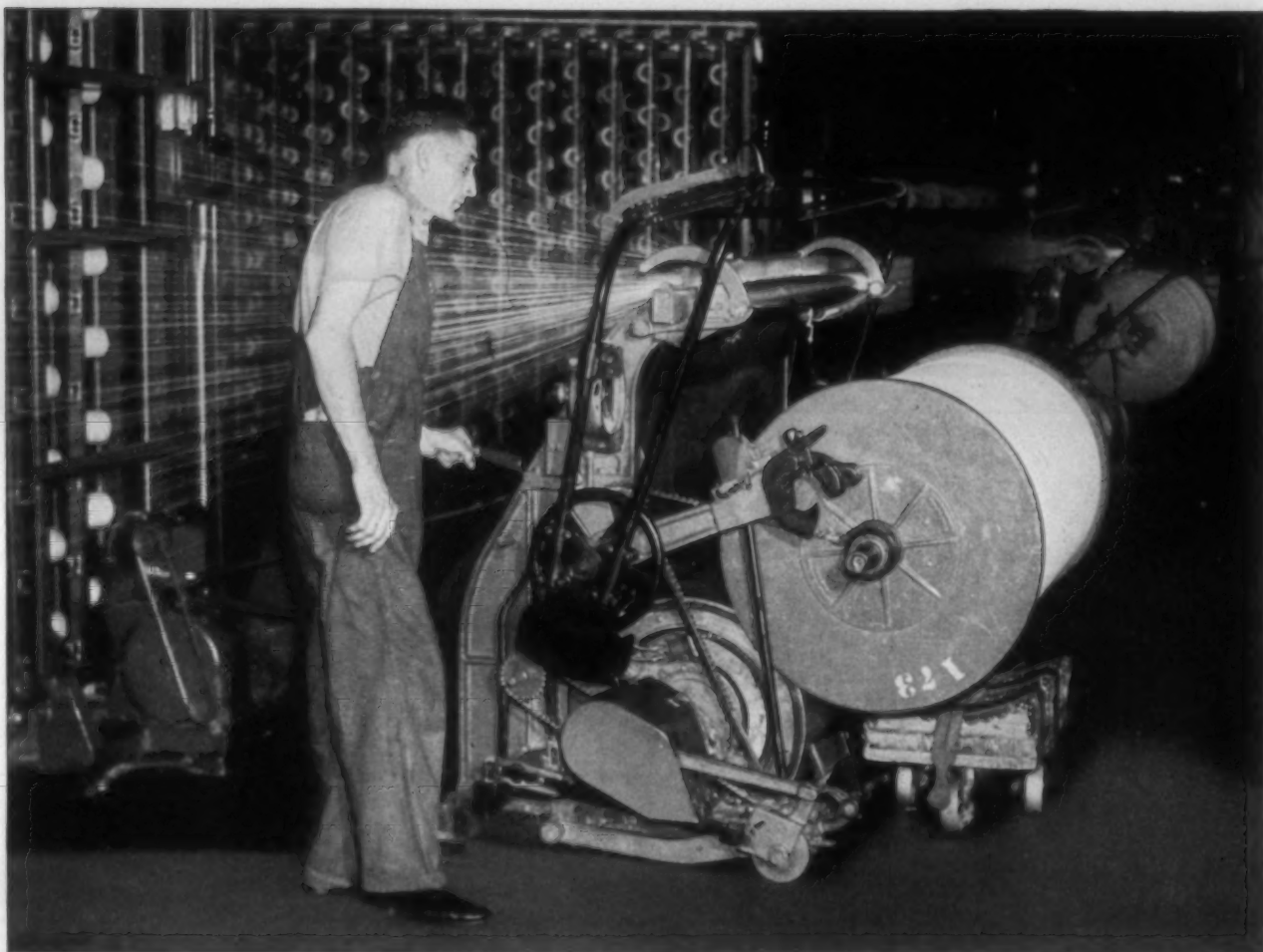
A 100,000 Gallon Water Tank Holds Four Hundred Tons of Water, Which Is Equal in Weight to Four Large Railroad Locomotive Engines.

This weight is carried and balanced on four steel legs from 50 to 250 feet above the ground, so therefore, we suggest that you keep your tank in first class condition at all times to protect you and your fellow taxpayers from property damage and loss of lives.

One of the largest organizations of its kind in the industry. A completely equipped and efficiently operating reliable company, brings you competent tank maintenance at the lowest possible cost with full protection to you and your city by carrying workmen's compensation and public liability insurance.

Copyright 1943





Makes Easy Work of Beam Loading

ONE of the many features of the Barber-Colman Super-Speed Warper is the beam loader shown in the above picture. With this handy unit, one man can easily and quickly load and unload even the heaviest beams. The loader consists of a hand-crank-operated double chain hoist, with hooks to drop over both ends of the beam shaft. For unloading a full beam, as the picture shows, turning the crank pays out the chains and the beam rolls down over the driving drum until it rests on the beam truck.

For loading, the beam is hooked and then drawn up over the driving drum until the shaft is seated in its bearings. Thus the operation of the loader is extremely simple and requires very little effort. Changing of beams is accomplished rapidly, the average time for the complete unloading and loading operation being about three minutes. This is only one of many ways in which Barber-Colman Super-Speed Warpers help to increase production and reduce effort, thus doing their part toward making more war goods faster.

For Example . . .

The following data is from a mill running heavily on war goods.

Count	30s
Ends on Beam	420
Yardage on Beam	30,000
Net Weight of Full Beam, 475 lbs.	
Beams per Warper per 24 hr. Day	22

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • TWISTER CREELS • MOISTURE CONTENT CONTROLS

BARBER-COLMAN COMPANY

ROCKFORD, ILLINOIS, U. S. A.

FRAMINGHAM, MASS., U. S. A.

GREENVILLE, S. C., U. S. A.

MANCHESTER, ENGLAND



THAT EXTRA "SOMETHING"

THESE are trying times for both makers and users of textile processing materials. Our armed forces can't wait for deliveries, yet the time-honored oils, fats and soaps that have long been used to process fibres and fabrics have had to be replaced without sacrificing quality.

Those who thought such items as edible oils, tallow or glycerine were irreplaceable, have been surprised by science. The replacements often prove better than former "staple" materials.

To make these new products of modern science work effectively, it takes more than just manufacturing ability. There's an extra "something" required. Let's call it RESEARCH.

Research includes the beaker, the bunsen burner,

the microscope, the glistening laboratory—and more. It extends from "lab" to plant where theory must be proven in actual practice.

A packed briefcase in the hands of a Houghton Research Staff man who has been called in by mill executives—that's the "end use" of Research. Its beginning may have been ten or twenty years ago when men foresaw the possibility of both scarcities and real improvement.

We're justly proud of our augmented Research Staff which today backs up the efforts of more than 100 Houghton men the country over. We want you to use its facilities, its ability to roll up sleeves and tackle tough processing jobs. This cumulative experience is yours for the asking.

E. F. HOUGHTON & CO.

CHARLOTTE • PHILADELPHIA • CHICAGO

Houghton Research Experience can help on —

**Cotton Warp Sizing ~ Soaking or Sizing Rayon
Conditioning Wool ~ Sanforizing ~ Dyeing and
Finishing ~ Lubricating Textile Machines. USE IT!**

MANUFACTURING COMPANY			
BALANCE SHEET			
December 31, 1942			
ASSETS			
CURRENT ASSETS:			
Cash in banks and on hand		\$	80,402.66
Accounts receivable:			
Due from selling agents	\$	219,017.94	
Other current trade		9,702.02	
			228,719.96
Inventories (see comments):			
Manufactured goods		22,304.81	
Goods in process		67,858.52	
Raw Materials		204,776.06	
Store merchandise, waste, fuel and supplies		30,412.37	325,351.76
Total current assets			634,474.38
Real Estate, Plant and Equipment	\$	1,753,026.14	
Less reserve for depreciation		911,611.17	
			841,414.97
Depreciation Reserve Fund — Cash in bank			80,000.00
Post War Excess Profits Tax Credit			36,595.30
Deferred Charges and Other Assets			

CURRENT LIABILITIES

This Mill Has Already Made a Start

We have received the following letter commenting on our recent advertising on Setting up Reserves in Cash to be used to buy the Better Looms you will need After the War

Draper Corporation
Hopedale Mass

Gentlemen:

I am very much interested in your current advertisements in which you advise mills to set aside a part of their earnings in a cash reserve.

I am sending you herewith a copy of our statement for the fiscal year, ended Dec. 31, 1942, in which we have done just what is suggested.

Instead of leaving the funds appropriated for depreciation in the quick assets, you will notice that we have segregated the amount and have deposited it in a separate bank account.

As a matter of fact, since the year end we have appropriated an additional \$20,000 so that we now have a fund of \$80,000 all applying to the year 1942. We further expect to use the post war excess profits tax credit for the rehabilitation of the plant.

Speaking of buying looms, how do you go about it at the present time?

The Answer is our Post-war Reservation List
Let's Talk It Over

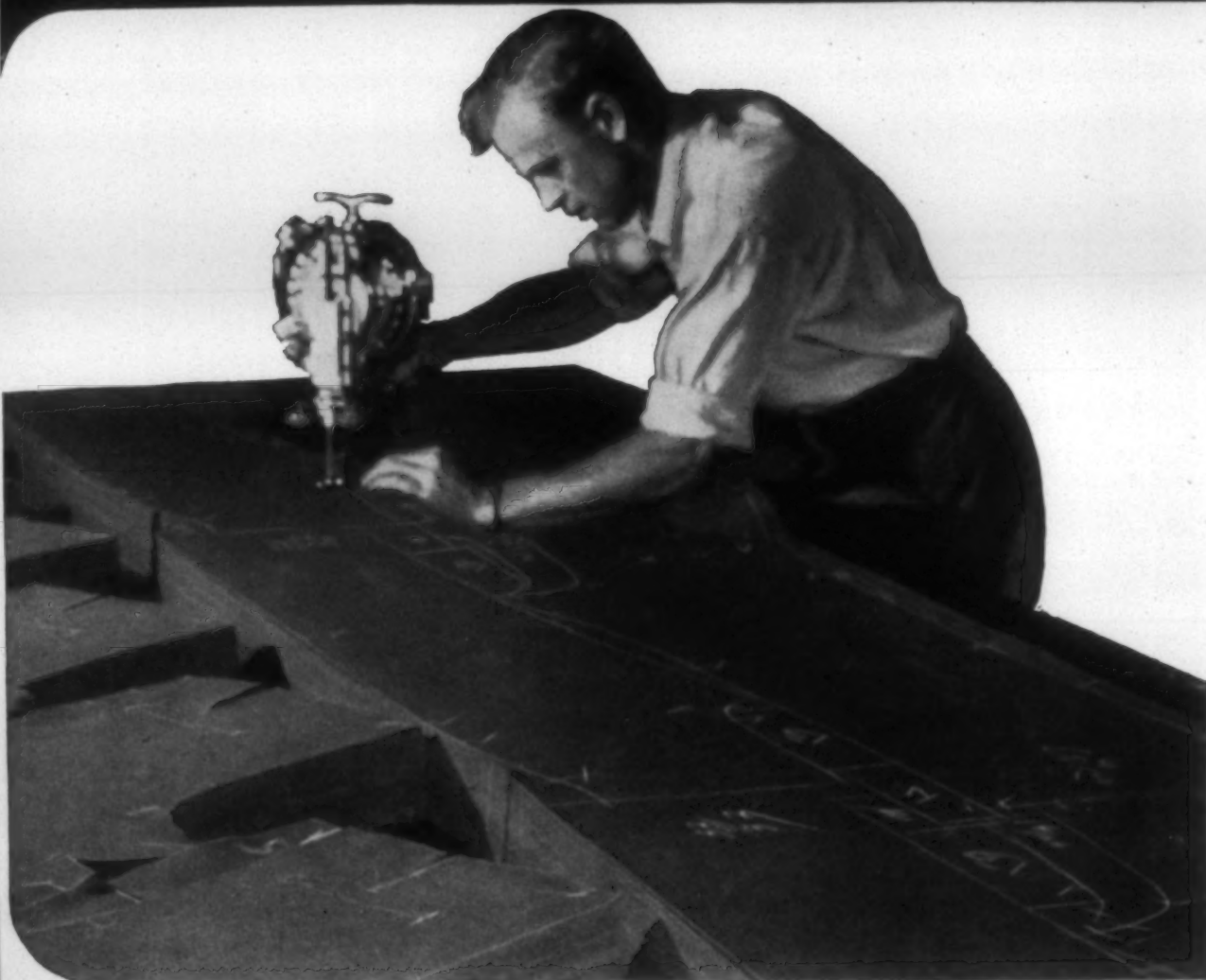
DRAPER CORPORATION

Atlanta Georgia

Hopedale Massachusetts

Spartanburg S C

There's a man-size job cut out for every American!



Yours is to produce—and fast—the unprecedented quantities of fabrics needed to equip our armed forces. Ours is to provide you with tough, long lasting, accurately made

War has doubled the textile output but is exhausting mechanical equipment at a rate far in excess of normal.

This is particularly true of card clothing—because *card clothing takes the rap*.

These conditions dramatize the need for quality. Tufferized Card Clothing is your assurance of top performance.



O.W.I. Photo

TUFFER PRODUCTS

Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Recovered and extra sets loaned at all plants. Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant • Midgley Patented, and Howard's Special Hand Stripping Cards • Inserted Eye & Regular Wire Heddles

HOWARD BROS. MFG. CO.

WORCESTER, MASSACHUSETTS

Southern Plants: Atlanta, Ga., Gastonia, N. C. Branch Offices: Philadelphia, Dallas. Canadian Agents: Colwool Accessories, Ltd., Toronto 9

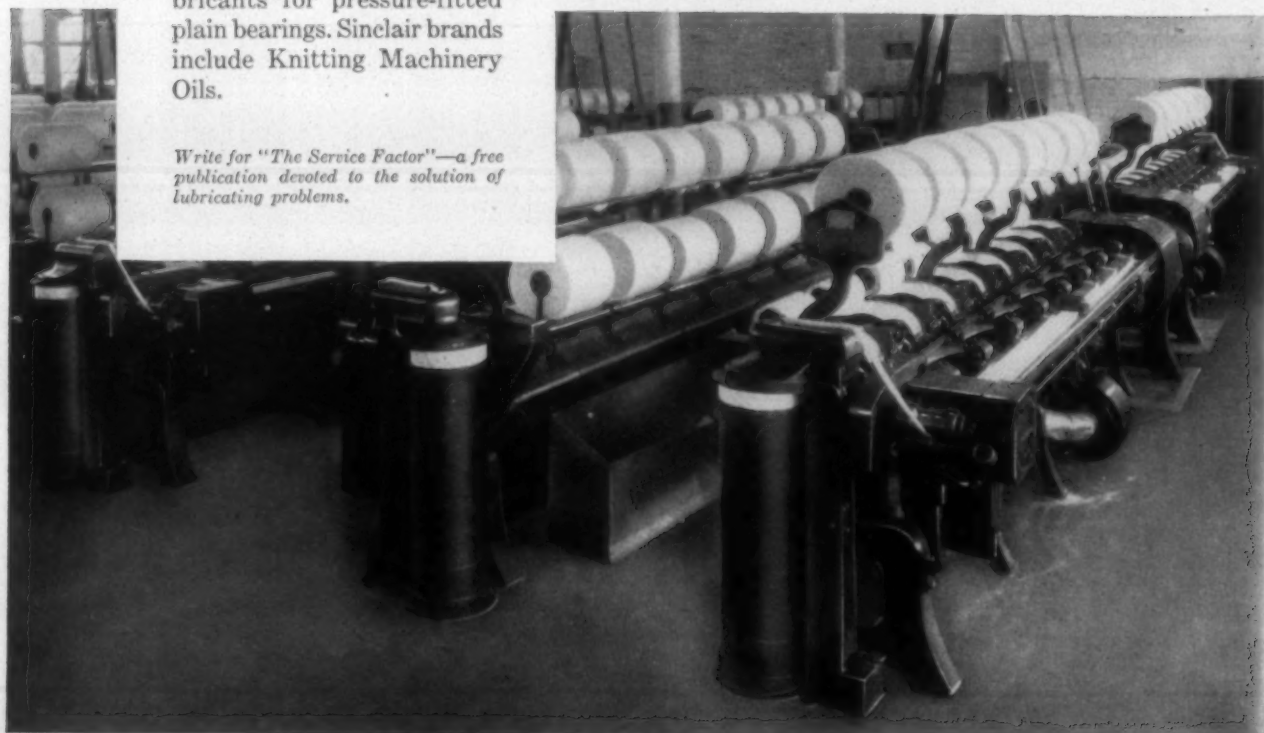
STRIKING POWER

abroad needs productive power at home. For sustained peak production in TEXTILE MILLS use...

.....SINCLAIR LUBRICANTS...

Lily White Oils provide cool, no-drag spindle lubrication at all speeds. No-Drip Lubricants are highly efficient for top rolls and worn comb boxes. Sinclair Bearing Greases, *neutral* in color and *water soluble*, are correct lubricants for pressure-fitted plain bearings. Sinclair brands include Knitting Machinery Oils.

Write for "The Service Factor"—a free publication devoted to the solution of lubricating problems.



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FOR FULL INFORMATION OR LUBRICATION COUNSEL WRITE NEAREST SINCLAIR OFFICE
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The Cotton-Textile Industry South of the Rio Grande

By MARGARET E. WAMBSKANSS*

ONE of the industrial epics of the modern world is now being enacted in the American Republics.

Confronted with reduced imports of many essential items, our American friends from the Rio Grande to Cape Horn have turned to their own resources and expanded old, and developed new, manufacturing industries beyond all expectations.

Included in this trend is the growing textile industry. Practically every one of the other American Republics produces wool, cotton, or some kind of fiber for use in manufacturing cloth, wearing apparel, hats, bags, tents, rope and twine, for civilian use, as well as for important military purposes.

In many nations of the Western Hemisphere, the textile industry is comparatively new; in fact, from its origin until the present, it covers the span of a single human life. However, the war with its resultant decrease in foreign trade has made this industry vitally important, and its leaders have quickly answered the challenge.

If one American nation lacks a raw material, it need only turn to a neighbor, and the want is supplied; and that country in turn may obtain a share of the finished product. So each helps the other. Agriculture and manufacture thrive side by side.

Brazil's Cotton Textiles

An outstanding example of the growth of textile activity is Brazil. This great republic produces textile raw materials. It ranks fourth in world production of cotton, being exceeded only by the United States, India and the Soviet Union. Endowed with fertile soil and favorable climate, Brazil has possibilities for wide expansion in cotton cultivation.

The cotton textile industry is the most important manufacturing group in Brazil, both as to capital investment and production value. It began early but developed very slowly until World War I gave it a decided impetus. From that time advancement was rapid. In 1935 about 326 cotton mills with 81,493 looms and 2,576,313 spindles were in operation. These employed 112,711 workers and produced

up to 828,180,000 yards of piece goods. In 1940, 340 mills were operating 82,053 looms and 2,719,000 spindles. Recent estimates indicate that spindles have now reached the high figure of 3,000,000, compared with 23,559,000 in the United States and the United Kingdom's pre-war total of 36,000,000.

At present about one-third of Brazil's cotton harvest is absorbed by domestic mills which are operating at maximum capacity. For the 1940-41 year the ten states of northern Brazil consumed 668,500 bales, and 44,250 bales the following year. In the Sao Paulo region, to the south, almost 260,000 bales were consumed in 1940-41, the highest on record, and the estimated consumption for 1942-42 is between 300,000 and 350,000 bales.

Large quantities of cotton yarn in counts up to 80s are spun within the country. Very little finer yarn is produced—most of this type, used in hosiery and lace manufacture, being imported.

In 1935 Brazil imported 280,000 kilograms of cotton piece goods, and exported 221,000 kilograms. In 1939, imports totaled 545,000 kilograms, and exports had soared to 1,982,000 kilograms. Imports of other cotton manufactures in 1939 reached 108,134 kilograms, while exports aggregated 59,692 kilograms.

Textile exports to other South American countries are



Textile mill at Santiago, Chile.

*In Foreign Commerce Weekly, U. S. Department of Commerce.

mounting steadily, Argentina being an important buyer. In 1940, \$3,619,283 worth of cotton textiles, or about 3,958,371 kilograms, were exported to neighboring countries, of which Argentina received 3,270,296 kilograms, Venezuela 198,727, Paraguay 73,676, Chile 68,434, and Colombia 61,833 kilograms. South Africa is also becoming an increasingly important outlet for Brazilian cotton textiles.

What Peru's Mills Make

Peru ranks second among cotton-producing nations of South America. Cotton has been grown and worked in this country for many centuries, as evidenced by pieces of cloth discovered in prehistoric graves and among Inca relics.

Favored with ample raw material, labor, water power, and strong demand, Peru's cotton textile industry developed very early. The first cotton mill was erected in 1848, but the market was not ready. A second mill was established in 1871, and cotton manufacture has continued to this day, with a steady improvement in quality of goods made.

In 1940 Peru's 11 cotton mills employed more than 4,000 workers, operating 120,000 spindles and 4,750 looms. About 57,841,600 yards of cotton goods were manufactured. By the end of 1941, 5,000 looms were running, and in 1942, 5,500 looms and 130,000 spindles were in operation. The output is estimated at 73,000,000 yards of cotton cloth and 7,400 metric tons of cotton yarn.

Mills consumed about 7,590 metric tons of cotton in 1940, and an estimated 10,000 tons in 1941. A total consumption of 11,500 metric tons is anticipated in 1942, and domestic production has almost entirely replaced imports of cheaper grades of cloth.

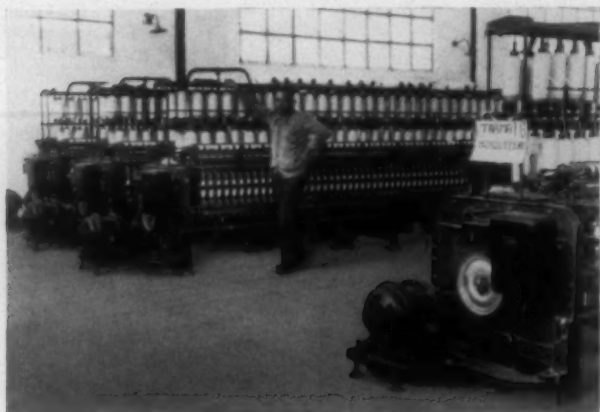
All varieties of cotton goods are manufactured, from the very coarse to high-grade fine qualities; also gingham, suiting, denim, shirting, drill, flannelette, gabardine, pique, twill, damask tablecloths, napkins, toweling and knit goods.

Higher prices will further stimulate this industry, through a promise of better profits to mills and higher salaries for employees.

Evolution in Argentina

Argentina ranks fourth in cotton production in the Western Hemisphere, about 80 per cent coming from the low-lying northern plain, the Chaco Territory.

Cotton was grown in Argentina before the advent of the Spaniards. Mummies were found, swathed in cotton fabrics,



Some equipment of a cotton mill in Paraguay.

and old records reveal that tribute was paid to the Spanish conquerors in cotton goods. In the interior today, skillful weavers still produce beautiful and artistic designs.

Agricultural and pastoral pursuits brought such rich returns in Argentina that for many years little thought was given to manufacturing. Introduced at the turn of the century, industrialization progressed slowly until transportation difficulties during World War I made the country aware of the advantage of producing its own finished goods, particularly since raw materials were so readily available.

Textile manufacturing shared in this development, and soon outgrew the cottage-industry stage where it had remained for so many years. It now comprises Argentina's second largest industry, and textile mills are booming. The work week is limited by law to 48 hours.

Cotton manufacture progressed so rapidly that by 1939 approximately 40 per cent of the home demand was filled by domestic mills.

In 1928 Argentina's cotton mills, representing a capital investment of nearly \$60,000,000 employed 23,000 workers. About 40,000 spindles were in operation. Eight years later these had increased more than 500 per cent, to 251,000. In 1939 cotton-textile factories operated 333,019 spindles and 5,593 looms. Only a year later spindles numbered 347,328 and looms 6,061.

Total consumption of cotton in the Argentine Republic reached 71,000,000 pounds in 1937. In 1940, it was even higher—100,000,000 pounds. Cotton yarns in the amount of 32,926 tons were spun, and 31,397 tons were imported. The output of all-cotton woven fabrics amounted to 19,990 tons, cotton hosiery 1,831 tons, and knitted cotton goods 5,012 tons.

To lessen the demand for jute bags, of which about 150,000,000 are required annually, manufacture of cotton bags is being encouraged. The Argentine Government has authorized investment of a substantial sum for a factory, now under construction, with a capacity of about 30,000,000 to 35,000,000 bags annually. Approximately 10,000 tons of low-grade cotton will be used in the process.

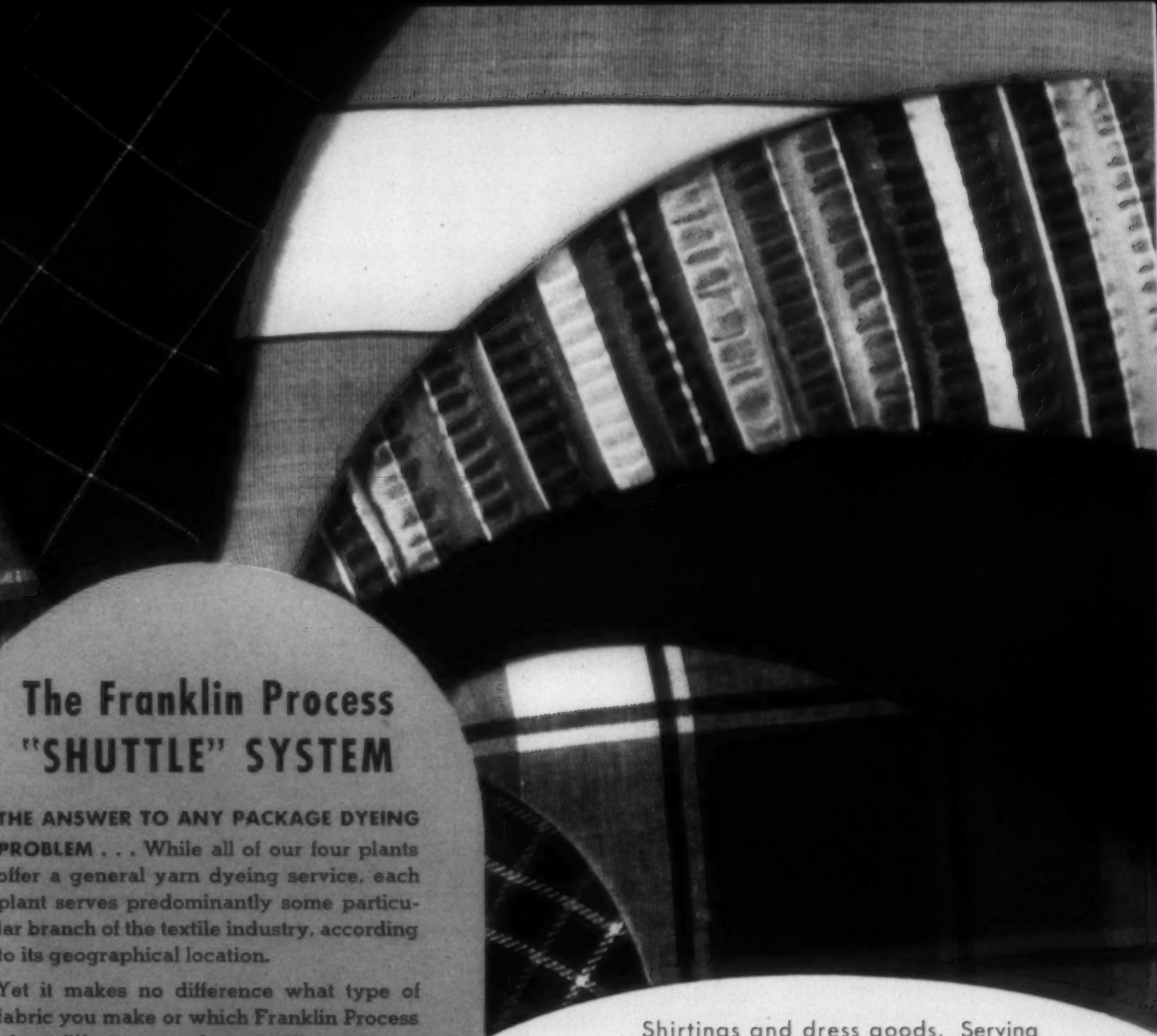
Mexico's Position

Mexico is fourth in cotton production below the Rio Grande. In 1910 only 36,000 tons of cotton were grown, and large quantities were imported to feed the hungry textile mills. Twenty years later output of raw cotton totaled 246,000 bales (of 478 pounds). The 1940 crop covered 253,657 hectares, with a production of 65,495 metric tons, or 284,759 bales. The following year recorded an advance to 316,335 hectares with an estimated output of 80,539 tons, or 350,169 bales. Record proportions were attained in 1942 when 358,600 hectares were planted to cotton and estimated production totaled 410,000 bales.

Most of the crop is consumed by domestic cotton mills, the leading division of the highly developed textile industry.

Cotton manufacture in Mexico has mounted steadily in the past few years, stimulated by increased demands from the country's Central and South American neighbors, as well as the Caribbean islands. In 1935 domestic factories numbered 185 and consumed 217,513 bales. By 1940 these had grown to 206, with an annual consumption of 224,295 bales. About 830,000 spindles and 29,000 looms were in operation. A year later 220 factories were consuming 248,

(Continued on Page 67)



The Franklin Process "SHUTTLE" SYSTEM

THE ANSWER TO ANY PACKAGE DYEING PROBLEM . . . While all of our four plants offer a general yarn dyeing service, each plant serves predominantly some particular branch of the textile industry, according to its geographical location.

Yet it makes no difference what type of fabric you make or which Franklin Process plant fills your order; you'll get yarn, dyeing and winding that is equally suitable for your purpose. That's because we "shuttle" information back and forth. Thus the experience of any one plant is multiplied by four.

We also "shuttle" orders when delivery requirements demand it, thus saving you unnecessary delay.

It's **GOOD INSURANCE** to use our Service.

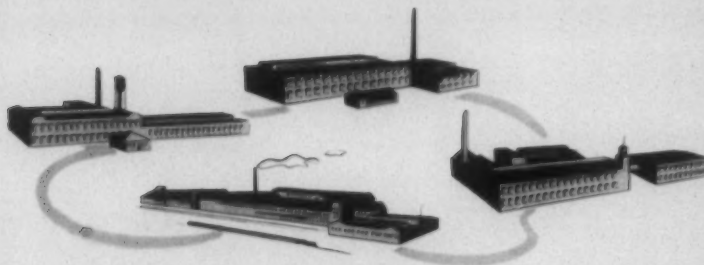


Shirtings and dress goods. Serving this field is one of the specialties of our Providence plant.

Franklin Process

LARGEST PACKAGE DYERS IN THE WORLD

YARN DYERS AND COLORED YARNS — PROVIDENCE, PHILADELPHIA, GREENVILLE, CHATTANOOGA. NEW YORK REP., 40 Worth St.; CHICAGO REP., 100 W. Monroe St.

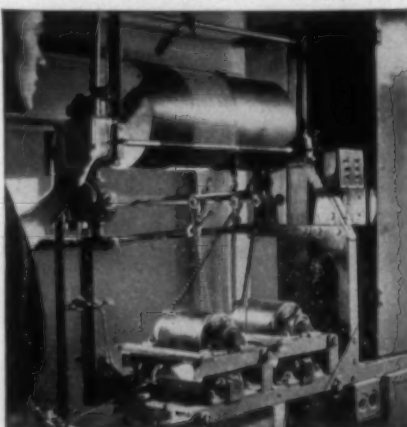


Textile chemicals

ARE ONLY ONE GROUP OF MANY PRODUCTS
OF ROHM & HAAS RESEARCH THAT WORK
FOR INDUSTRY IN PEACE AND WAR

AMONG textile mills, Rohm & Haas Company is best known for its development of TRITONS, RHOTEXES, DEGOMMAS, RHOPLEXES, RHONITES, PROTOLIN, FORMOPON and LYKOPON.

This Company through research has expanded into many other fields of industry. This page shows a few typical examples.



MODERN FAST TEXTILE COLORS presented a need for reducing agents. Rohm & Haas LYKOPON was the first to fill this need. Among our many other developments are RHONITE finishes that make fabrics "crushproof". This yarn slasher is typical of equipment in our textile laboratories which permits close approximation of mill results.



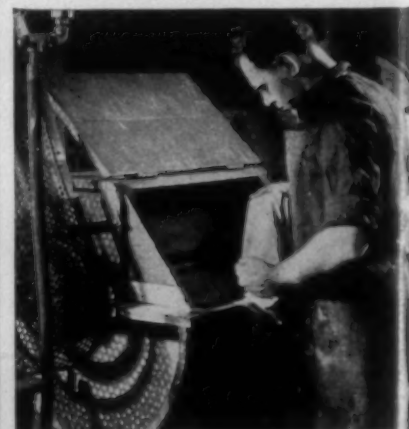
CRYSTAL-CLEAR ACRYLICS are stronger, lighter and more transparent than glass. This type of plastic was first investigated in Rohm & Haas laboratories, first brought into commercial production in our plants. Known as PLEXIGLAS, it forms noses, tail assemblies, cockpit covers, gun turrets aboard every type of Army and Navy airplane.



SEARCH FOR A SYNTHETIC, organic insecticide made wholly from American raw materials was started 15 years ago by Rohm & Haas chemists. LETHANE was found in 1930. Today, LETHANE 384 and LETHANE 384 SPECIAL stand ready to provide a major portion of the toxicants for the nation's livestock, industrial and household sprays.



LETHANE 60 WAS DEVELOPED for use in agricultural dusts and sprays. Wide commercial use of this synthetic insecticide has demonstrated that replacing 50% of the rotenone or pyrethrum in dusts and sprays with LETHANE 60 not only stretches this country's limited supplies of botanical toxicants, but actually makes better products.



THE ROHM & HAAS COMPANY developed the first synthetic base for leather. Today, this base, under the name OROFON, is in common use in every country of the world. Later developments include synthetic tanning materials to produce great amounts of high quality white leather and finishes producing flexible and washable leather.

TRITON ■ RHOTEX, DEGOMMA, RHOPLEX, RHONITE, PROTOLIN, FORMOPON, LYKOPON, PLEXIGLAS, LETHANE and OROFON are trade-marks, Reg. U. S. Pat. Off.

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA, PA.

Manufacturers of Chemicals including Plastics . . . Synthetic Insecticides . . . Fungicides . . . Enzymes . . . Chemicals for the Leather, Textile and other Industries



TO the sional fighting in color of o sional effe have in ge and the re new theor of color t danger zo proved.

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Dark Equi

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TEXTILE BU

THREE DIMENSIONAL SEEING

By E. W. WINKLER

Assistant Professor of Electrical Engineering
North Carolina State College, Raleigh

TO the illuminating engineer the term "Three Dimensional Seeing" is the name applied to a new theory of lighting in which the quality and quantity of light and the color of objects are blended to produce the three dimensional effect. Former theories of illumination and practices have in general considered the quality and quantity of light and the reflecting characteristics of walls and ceilings. The new theory includes all of these factors plus the addition of color to machinery and equipment in such a way that danger zones are highlighted and visual efficiency is improved.

This theory of lighting is comparatively new. About 12 years ago workers in a shoe factory complained of headaches and blind spots. An executive of the company, while watching a man at work on a black shoe in a black painted machine, suddenly noticed that there was no contrast between the shoe and the machine. The dark surfaces made seeing difficult. Acting upon impulse, he told the operator to paint the machine with a more pleasing color. What color the worker selected was not recorded, but evidently it was attractive because in a short time the shoe factory blossomed forth with a varied assortment of colors as other workers followed suit. The colors gave a better contrast between the shoe and the working parts of the machinery. As a result, the accident rate fell off 70 per cent, production increased, there was less fatigue and fewer seconds.

Dark Equipment

The average well-lighted textile mill presents the same problem. Looms and other equipment are usually painted black, dark green or deep gray. There is very little contrast between moving parts and stationary parts, and danger zones are not highlighted with colors. If painted at all, the walls and ceilings are usually painted a glaring white. In the average mill this lack of contrast on machine surfaces, coupled with a uniform white or gray from above, will cause eye strain, headaches and fatigue. When the general illumination is low, the combined effects of insufficient light and lack of color contrast may decrease production by a surprising percentage. Likewise, the possibility of accidents is high.

Factors Affecting Seeing

The threshold limits of lighting for visual efficiency vary with different types of work, but in general they require higher intensities of illumination than lighting authorities have recommended in the past. The theory of three dimensional seeing is simply a scientific study of all of the factors involved in the act of seeing with special emphasis on the

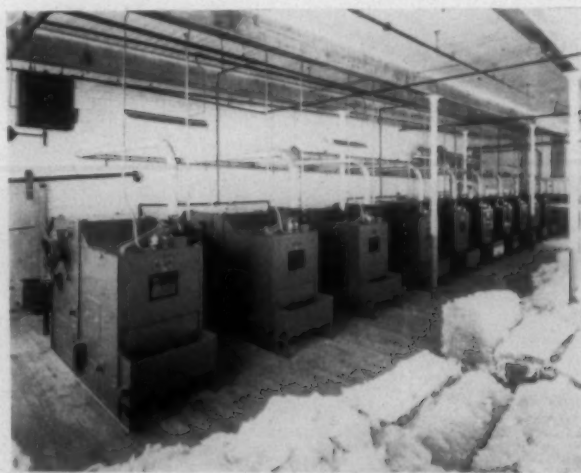
use of color to produce contrast and high-light danger point.

Each of the factors that affect seeing will now be discussed with reference to its influence in textile work. Outline and size may be considered with respect both to equipment and to work. Very often sufficient space is not available and this means the crowding of both machines and workers. Here is an excellent opportunity to emphasize outline by the painting of the various parts. Since the eye is naturally attracted to the brighter points, the painting of danger areas with light colors will simply improve safety in just about the same ratio that the danger zone stands out from its surrounding parts.

The folder may be considered as an example for this type of safety painting. At the end of each stroke, the moving element of the folder comes into close contact with the stationary part. If the color of the stationary part contrasts with the color of the moving part and the average color of the cloth being folded, the danger point will stand out and there will be less tendency to accident.

The picker might be considered as a second example. While picking is a machine process and involves very little manual work, the controls are usually on the side of the machine and are illuminated from an overhead source, often directly over the machine. Here the location of the light plus the addition of color to the machine and the controls will improve the working area.

The card may be considered as the third example. Here it is necessary to clean certain parts while the parts are in motion. Highlighting the parts with color will emphasize the boundary line between stationary parts and moving



Opening room work requires little visual effort.

parts, provide more uniform lighting for the worker and definite outline the danger zone.

In processes such as the handling of raw cotton, breaking of bales and feeding the mixer, very little visual effort is required and hence a low level of illumination is permissible. Between five and ten foot-candles are recommended for this type of work, but this should be uniform and have no extremely bright points to distract the eye. The use of light colored paint in these areas will do much to reduce the visual effort required with the recommended low levels of illumination.

The weave room represents the other extreme in regard to illumination requirements. Here the worker is dealing with fine threads, and very often there is no opportunity to produce a contrast by the application of color, unless light reflected from parts of the machine will produce a contrast. Recognition of form and outline, as well as size and detail, can often be improved by a combination of direct and oblique lighting. A small defect in the material will very often develop into a large one unless it is corrected.

A combination of overhead lighting, movement of the cloth, noise and vibration makes it extremely difficult for the weaver to detect errors. It is believed that a uniform general lighting of about 30 foot-candles, combined with about 15 foot-candles of oblique lighting coming from the side at about 20 degrees, will greatly improve the detection of faults and cause less eye strain and fatigue on the part of the weaver. This suggested form of lighting will require a special unit on each loom for the oblique lighting. Many factors will have to be considered to determine if such a plan will be economically justifiable.

Light and Shade

The third factor involved in the act of seeing, the perception of light and shade, is a basic principle in the theory of three dimensional seeing. The quantity of light as well as the arrangement of the light sources will definitely introduce the third dimension of depth into the scene. A good example is any outdoor scene under sunlight. Here the various colors of nature, plus size of objects, light and shadow, give the impression of depth of distance to the scene. Now consider the same scene at dusk. Nothing has been changed except the quantity of the light and the nature of the light source. The impression of distance



Glare is a very serious factor in seeing.

is almost nil because the light intensity has been reduced and the whole sky has become the light source in place of a single point. Anyone who has driven a car at dusk will agree that the factor of safety has been greatly reduced by this change from a three dimensional scene to a two dimensional scene.

In any textile plant the contrast produced by light and shadow can be used to increase safety, decrease fatigue and increase efficiency. The oblique lighting for the inspection of fine work is an example. If natural lighting outdoors is assumed to be the most efficient form, then the illumination of a room for maximum seeing efficiency should approximate outdoor lighting. The factors considered should include sufficient quantity of light, the reflection factors of walls, ceiling, floor and all equipment. The final result should give a restful contrast between light and shadow that approximates the out-of-doors. Much study of the general theory of illumination and of individual areas to be lighted will have to be made before such lighting installations will be common.

The Motion Factor

When it is necessary for the worker to observe rapidly moving objects a new factor is introduced into the problem of seeing. If the motion of the object is uniform and in a straight line, the eye can follow it quite easily if the velocity is not too great. But when the motion is of a circular or vibratory nature, the effort required to see the object is greatly increased. It must be remembered that when a person is reading a book, the eye does not travel uniformly across the page but moves in jumps. Thus when a person is trying to view a moving particle, the eye is about one jump behind the particle. This imposes severe strain on the eye.

In the weave room the weaver must closely watch the surface of the cloth to detect mistakes. The cloth on a high speed loom has a periodic motion due to the vibration of the loom and also a horizontal motion due to the rate of weaving. While this periodic motion may be quite small, it is nevertheless great enough to cause eye strain. Since it is impossible to eliminate this periodic motion, the only practical solution for this problem is to determine the right quantity and quality of light to reduce the strain to a minimum.

The location of the light unit is important. Quite often the light source is located over the work alley directly opposite the center of the loom. In this case the weaver's shadow is thrown directly on the cloth, thus adding to the difficulties of seeing. The ideal location of the lighting unit is directly over the loom, and for uniform illumination the light emitting surface should be large. Fortunately, the ideal location and the desirable size of the unit are such that the maximum output of the unit is utilized.

Reference has already been made to the advantages of using contrasts of colors to reduce fatigue and eye strain. There is a psychological aspect to this idea that is worth considering. In textile industries a large percentage of the workers are women. Research by the medical profession indicates that in general women are more nervous than men. Likewise, they are more sensitive to colors and decorations than men. Any factors that create mental disturbance on the part of the workers will cut down production and may adversely influence the health. Such things as

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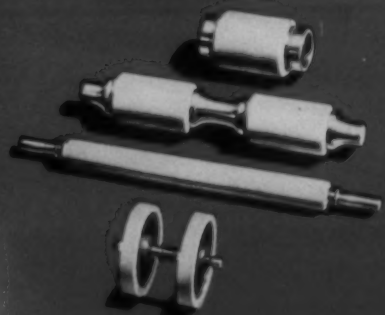
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The one and *only* Dayco Synthetic Rubber Roll Covering has demonstrated, in mill service since 1938, its all-season resistance to temperature extremes and its ability to give improved drafting of *more* high standard yarn at lower cost-per-month of use.

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| 1. Improved drafting. | 7. Proper cushioning. |
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noise, temperature, degree of humidity and illumination are known to influence mental strain, with a corresponding effect on health and production. Improvements in illumination, including pleasing color contrasts, may have a pronounced psychological effect and indirectly improve relations between management and worker.

Glare

Glare is probably the most serious factor involved in the act of seeing. Glare has been defined as any brightness within the field of vision that causes discomfort, annoyance, interference with vision, or eye fatigue. It is one of the principal causes of eye strain and is therefore always to be avoided, yet it is one of the most common defects of lighting systems. Glare is objectional for several reasons. First, when continued, it tends to injure the eye and to disturb the nervous system. Second, it causes discomfort and fatigue and thus reduces the efficiency of the worker. Third, it interferes with clear vision by contracting the pupil of the eye and thus increases the risk of accident and injury to the worker. Every effort should be made to eliminate an injury to the worker. Every effort should be made to eliminate glare in work places whether it is caused by daylight or by artificial light.

Glare may be either direct or reflected, depending on whether the undesirable light comes directly from the light source or is reflected from a polished surface. Direct glare is usually caused by a small but intensely bright light source, such as a bare lamp. The RLM dome reflector commonly used in industry is a very efficient unit, but it produces considerable glare. Generally speaking, the larger the light source, the less will be the direct glare. The fluorescent lighting unit now coming into common use produces but little direct glare because the light emitted per unit area is comparatively low. In general, direct glare can be eliminated by the proper selection and location of the lighting units.

Reflected glare is difficult to deal with because it is due to light reflected by bright surfaces well within the field of vision. Any small but highly polished area contributes its share of reflected glare. While the proper selection and location of the light source will greatly reduce this discomfort, much can be done by the proper application of color to relieve the difficulty. Flat-finish paints of a cream or

light buff color can be used in many places to eliminate the undesirable light. This is possible because when the entire area under observation is reflecting light, the glare from polished points is not so noticeable. Light colored ceilings and walls will also help to reduce reflected glare. A careful inspection of any section in a textile plant will reveal many opportunities to eliminate this major cause of eye strain and mental fatigue. Here is the handle of a control, once painted red but through use polished to a mirror-like surface, contributing its share of reflected glare. There is a machine with its original black or green paint, but at certain angles the glossy surface reflects the light from an unshielded lamp into the workers' eyes. Other examples could be given to show that each machine presents its own problem, but a problem which can be solved by the application of three fundamental rules of lighting.

First, the quantity of light falling on the working plane must be sufficient for the task involved.

The second fundamental principle to be considered is quality of light. This refers to the special character of the light as well as to the elimination of direct glare. While natural light or white light is usually considered best, studies reveal that from a physiological point of view, the light from the incandescent lamp, the mercury lamp and the fluorescent lamp is satisfactory for practically all purposes, providing there is enough of it. There may be a psychological objection to the blue light from the mercury lamp, but this light seems to have no adverse effect on the eye. The avoidance of direct glare can be obtained by the proper selection and location of units. Fortunately, the low light output per unit area of the fluorescent lamp reduces the direct glare from this unit to a great extent.

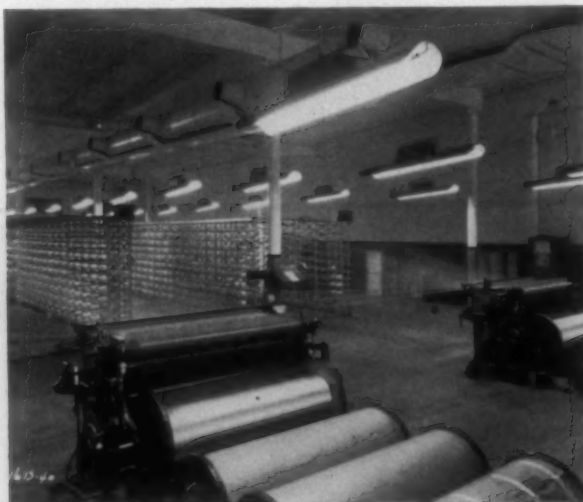
Light Distribution

The third fundamental principle deals with the distribution of light. Here the light-reflecting characteristics of paints can be used to advantage. It is generally known that dark surfaces absorb most of the light falling on them while a white surface reflects a large percentage. If all objects in a room were painted with a light-reflecting paint, each object could be classified as a low intensity light source. The reflected glare would be reduced because there would be less difference between the painted surface and the area producing the glare.

Since all surfaces would be light reflecting rather than light absorbing, the general light intensity would be increased and the contrasts due to shadows would be reduced. The choice of colors would have to be a compromise between the best light reflecting surface and the surface easiest to maintain. The maintenance problem would be greater when paint is used to improve illumination because those colors which reflect light best will also show dirt more plainly.

Research conducted by the Philadelphia Electric Co. in collaboration with the E. I. DuPont de Nemours & Co., Inc., reveals there are many advantages to the use of color in improving illumination, highlighting danger zones, increasing production and reducing fatigue. Their studies show that the best combination of colors for a machine shop is light gray for the general surfaces of the machine and light buff to make the working areas and danger zones stand out. The light gray was found to be comparatively

(Continued on Page 62)



Fluorescent lamps are generally satisfactory.

ONE OF A SERIES OF SUGGESTIONS TO AID PRODUCTION

HOW TO SOLVE

Operating Problems

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Keep this "Chain Gang" Tough!

MODERN CHAIN DRIVES are playing an important part in maintaining wartime production. They have been designed to take heavy loads at high speeds. They'll do their job week after week if given proper service and lubrication.

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CALL IN SOCONY-VACUUM

Treating Army Lightweight Protective Covering Materials

By ALLISON FITZGERALD — PART THREE

In the previous installment of this series the author explained the dyeing and finishing of 1.8 ounce cotton insect netting under Procedure Number One and under Procedure Number Two. He now takes up Procedure Number Three, using selected direct colors.

USING prepared cotton as described under dyeing and finishing *Procedure Number One**, there are three practical and desirable methods for dyeing the netting with direct colors under *Procedure Number Three* and giving it a resin finish that will meet the Quartermaster Corps. specifications as to weathering, water repellency, mildew resistance and cold water fastness.

These three methods, using prepared netting, can be synopsized as:

Formula A—

- (1) Dye in rope form on a dye beck or in loose rolls on a jig.
- (2) Dry partially, either on dry cans or by hydro extraction.
- (3) Pad on urea formaldehyde resin mix prepared with necessary fungicidal and waterproofing agents.
- (4) Dry and cure on dry cans and covered frame.

Note: If netting in the greige bale form is used, it will require a longer period for dyeing either in rope or by jigg-ing and it is advisable to give a 30 to 60-minute boil off to remove sizing and wet out partially before dyeing.

*Treating Army Lightweight Protective Covering Materials, Part Two, TEXTILE BULLETIN, May 1, 1943.



Continuous piece dyeing and jig battery.

Greige goods can be run by Formula A, but do not give as satisfactory a dyed and finished job as prepared netting.

Formula B—

- (1) Dye prepared cotton netting on pad with selected direct colors.
- (2) Dry partially or 100 per cent, according to equipment.
- (3) Pad on urea formaldehyde resin mix as in Formula A.
- (4) Dry and cure on dry cans and covered frame.

Formula C—

- (1) Pad prepared cotton netting; pad mix to contain prepared resin mix, direct color, waterproofing and fungicide.
- (2) Dry and cure on cans and covered frame.

Use direct colors that possess satisfactory properties as to fastness to cold water, weathering, aftertreatment with resins, fungicides and waterproofing compounds, as well as give level dyed shades either on dye beck, jig or padder.

A list of direct colors is given; some of these will be of value for dye beck and jig dyeing Formula A, while others will prove of value for padding Formula B or C.

	Color Index No.	Foreign Prototype No.
Solantine Brown BRL .....	...	47
Pontamine Fast Orange ER .....	...	73
Pontamine Fast Orange EG .....	...	72
Amanil Fast Orange GLZ	653	..
Pontamine Yellow BBL	814	..
Amanil Fast Olive Brown RL .....	...	..
Calcodur Fast Yellow NN	814	..
Direct Fast Blue 4 GL	533	..
Direct Fast Blue FFB .....	...	71

It has been found from plant experience that while practically any good direct color combination will give a level dyed shade when dyed in the dye beck (rope form), it is suggested that the dyer or plant chemist be careful on jig and pad formulae to use in combination with a bright orange and blue, browns, or olives to obtain the necessary red or brown color component in the olive drab shades in preference to a yellow and red. This helps to prevent off-color selvages. On the dark green shades it is desirable to use a bright direct blue and orange and as small a portion of direct yellow as will give the green shade.

Formula A

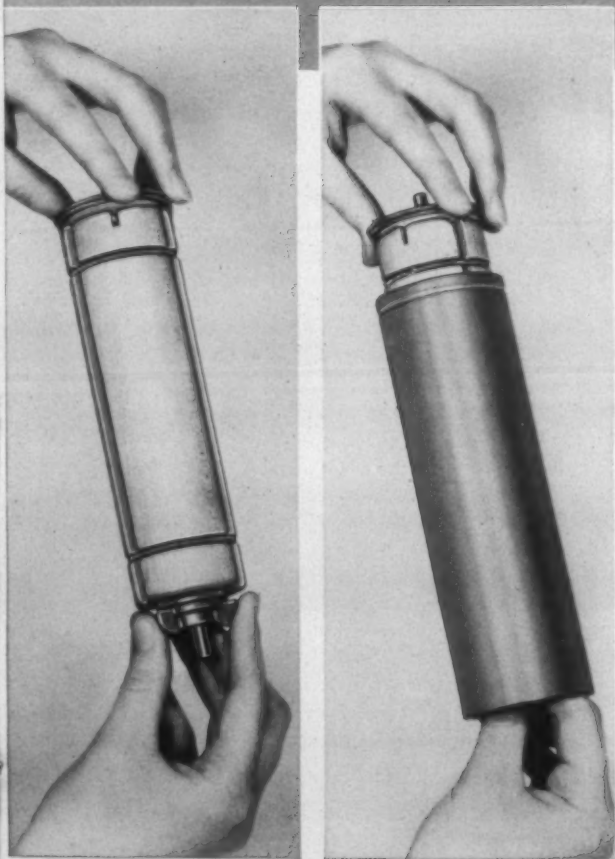
In the dye beck or rope dyeing Formula A, using prepared cotton netting, enter prepared netting in bath using the least amount of penetrant satisfactory for dyeing. Do

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The NEW ATWOOD EXPANDING MANDREL*

*for easy, rapid removal of the yarn package
without touching the yarn*



HERE IS THE MANDREL that's as sturdy, practical and economical as it is ingenious.

Look at it! A turn of the wing nut collapses the entire Mandrel cylinder. Tubes simply cannot stick! Expansion is uniform in all directions — the entire length of the cylinder. Rotation is therefore perfectly balanced — the entire surface is in firm, uniform contact with the package.

The Atwood Expanding Mandrel works as slick as a whistle, even with the heaviest of headless packages. It stands up under constant handling. Users tell us it's the best ever.

Here's something to look into — now, if you have the necessary priority—as an item for your post-war planning in any case. For the whole story, get in touch with

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not overload machine, as this causes dragging of netting which affects final appearance and finish.

Use full color formula whereby shade can be obtained in a dyeing time of 30 to 60 minutes with a minimum of common or Glauber's salt. After raising to boil, add salt, and sample in 20 minutes for shade. Give the goods a running cold wash until bath is clear, then remove, bag and hydro-extract to where the extracted goods retain approximately 50 per cent moisture content, open carefully, folding into box for subsequent drying on can or if goods to be restin treated, partially wet, run onto a shell ready for padding with resin mix.

A resin mix for padding (at 100-120° F.) is as follows: Waterproofing compound—use one to two per cent by volume prepared aluminum acetate—wax emulsion compound—enter cold and bring up to approximately one-fifth volume with water, heat to 140-180° F. to secure proper dispersing, then cool ready for the addition of other agents.

In place of waterproofing compound, three-quarters to one and one-half per cent aluminum acetate solution may be added to this mix.

Many of the prepared waterproofing compounds have incorporated a mildew proofing agent (fungicidal compound) and it is desirable to use such a compound if it meets the Government specification; otherwise, add mildew-proofing agent (dissolve required amount and mix in thoroughly).

Urea formaldehyde resin—Use two to six per cent by volume according to paste or powder form. Dissolve in equal amount of water at 120-150° F., then add in cold water to bring to desired temperature and volume for padding.

Plasticising compound—Use one-fourth to one per cent by volume to secure the desired hand or heel on finished netting. This type of agent acts as lubricant for resin.

Catalyst or accelerators—Use two to 15 per cent on weight of urea formaldehyde resin used, dissolve in warm water and have ready to add to mix when padding operation starts—*do not add until ready*.

The padding is best carried out at 100° F. to 120° F. and the goods run directly to dry cans and covered frame where the resin treated netting is cured at 280-300° F. and framed to the desired width.

A 90-foot covered frame is the most desirable type to use as the drying and curing of the goods may be run at 30 to

60 yards per minute according to temperature maintained on cans and in covered frame.

Formula B

Use only prepared cotton netting by Formula B, as the greige goods direct from the bale do not pad satisfactorily and gives mottled dyed shades even when using excessive amount of wetting agent in the color pad box.

Color pad mix—use selected colors to give even shade on selvages. Direct Brown BRL, Direct Fast Orange EG, Direct Fast Blue FFB, in place of color mix such as Direct Fast Yellow BL, Direct Fast Blue FFB, Direct Fast Brown BRL.

Pad at 180° F. Use no penetrant.

Run onto shell or dry cans for a partial or full drying, then pad with resin mix as shown in Formula A. Dry, cure and frame to width.

Formula C

Use only prepared cotton netting for Formula C, as the goods must have full absorbency for rapid and uniform take-up of direct color, resin and other agents in padding mix.

In some cases it has been found necessary to increase the percentage strength of direct colors used by this formula as compared to pad color mix in Formula B. This is due to the retarding action of the resin mix and other agents on the exhaust rate of the direct colors.

Dyers can, by very careful selection, find colors that allow exceptional low color cost by this method, so it is best to contact the technical dyestuffs service men on this particular problem than to give general color recommendations.

Pad mix—prepare color mix by dissolving up separately and strain into the prepared resin pad mix as outlined under Formula B. Bring to volume and at a temperature of 130-160° F.—the higher the temperature used on padding is more desirable though the odor of the urea formaldehyde resin is slightly objectionable to the pad operative.

At temperatures over 110-120° F. pad at 50 to 75 yards per minute, run onto dry cans for partial drying, then into a covered frame at 280-300° F. Here the speed should be kept at not over 15 to 20 yards per minute and may require slower speed to obtain a fully cured resin finish on the netting.

From a practical plant viewpoint, Formula B is the most satisfactory and all around method to dye and finish the netting; though Formula A will cost less on dyestuffs, the production is much less.

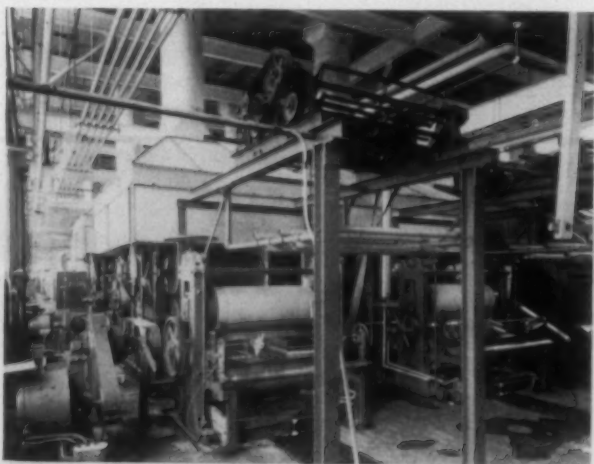
Formula C is strictly a high speed and production method and requires a highly efficient dyehouse and finishing plant to obtain finished goods equal to Formula B or A.

Suggested assistants for the various processing operations on cotton netting are as follows:

Alkali resistant wetting agents—

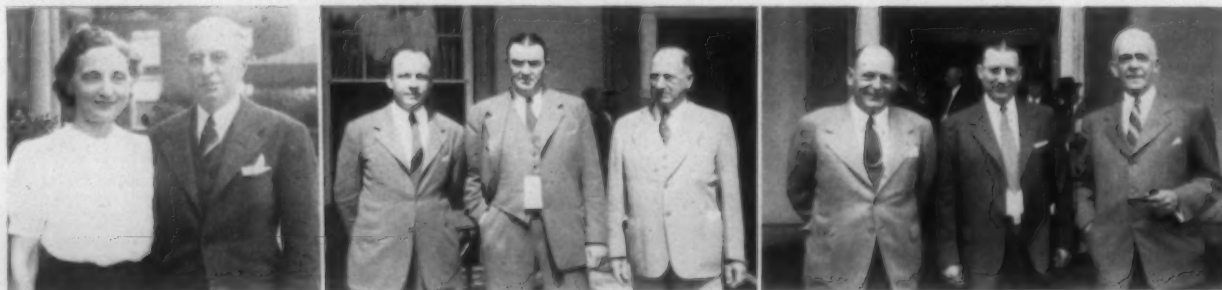
Tedgitol No. 7	Carbide & Carbon Chemicals Corp.
Triton W-30	Rohm & Haas Co.
Alkanol	DuPont Co.
Resalin SO	Sandoz Chemical Co.
Penetrant 700	American Cyanamid
Ahcomerse	Arnold-Hoffman Co.
Levelene	American Aniline Products, Inc.
Santomerse	Monsanto Chemical Co.
Nacconal	National Aniline Division

(Continued on Page 66)



Padding and dry can hooked in a range.

IN ATTENDANCE AT A.C.M.A. CONVENTION



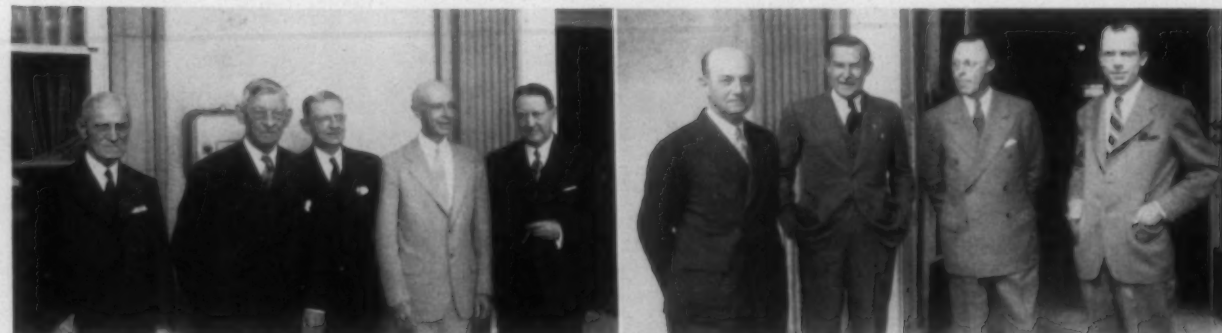
LEFT, Miss Leona Bell, secretary to W. M. McLaurine, and George Corson of the Clinton Co. CENTER, F. W. Phillips, Falls Thomason and F. D. Jacoway of New York and New Jersey Lubricant Co. RIGHT, F. M. Wallace, Claude Iler and Charles J. Kurtz of Keever Starch Co.



LEFT, Owen Fitzsimons, Dr. Claudius Murchison, Foster Howell, G. H. Dunlap, John Wigington and Paul Halstead of the Cotton-Textile Institute. CENTER, Homer Thompson of Coca-Cola Co. and W. H. Randolph, Jr., of Staley Mfg. Co. RIGHT, Graham A. Anthony, president of Veeder-Root, Inc., with William Harry Entwistle.



LEFT, John Klinck and Dr. C. Scott of Henry L. Scott Co. CENTER, seated, George Wright and Harrison Hightower; standing, Spencer Tunnell, Jr., of Chemical Bank & Trust, Co., New York, and S. M. Beattie. RIGHT, W. O. Hollingsworth and Luther Knowles of the Clinton Co., with Mrs. Hollingsworth and Mrs. Knowles.



LEFT, Robert Moore, J. E. Serrine, Harvey Moore, S. Marshall Beattie and Fred Symmes. RIGHT, Herman Cone, Stuart Cramer, W. H. Ruffin and J. Craig Smith.

PRACTICAL TEXTILE DESIGNING

PART TEN

By THOMAS NELSON

Dean of the Textile School, North Carolina State College, Raleigh

Part ten of this series on the fundamentals of textile designing explains reclining twills. This subject will be followed in the next issue with a discussion of curved and fancy twills.

THE principle of constructing reclining twills is somewhat related to the steep twills as regards skipping points. The difference between the two weaves is that picks are used in reclining twills whereas threads are used in steep twills. Examples given below will illustrate the principle of constructing these twills.

In a 38 degree twill two picks move consecutively as in a 45 degree twill, then a pick is skipped.

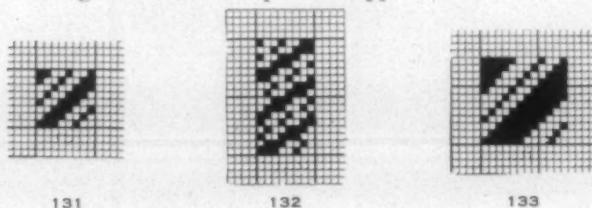


Fig. 131 illustrates the regular $\frac{3}{2}$ twill weave.

Fig. 132 illustrates the 38 degree twill derived from this weave. The pattern is complete on eight threads and 16 picks.

Fig. 133 illustrates the regular $\frac{6}{3}$ twill weave.



Fig. 134 illustrates the 38 degree twill derived from this weave. The pattern is complete on 12 threads and eight picks.

27 Degree Grading

The 27 degree twill is obtained by using every alternate pick of a regular 45 degree twill. When the 45 degree twill repeats on an even number of picks the full repeat of the 27 degree twill will be complete on half the number, but when the 45 degree twill repeats on an uneven number of picks the full repeat of the 27 degree twill will only be

complete on the full number of picks. This principle is illustrated by the following examples:

Fig. 135 illustrates the regular $\frac{4}{2}$ twill weave.

Fig. 136 illustrates the same weave, having every alternate pick in different type.

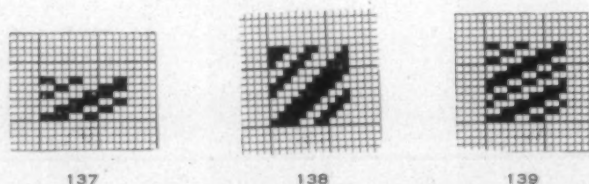


Fig. 137 illustrates the 27 degree derived by using the solid type. The pattern is complete on 12 threads and six picks.

Fig. 138 illustrates the regular $\frac{4}{2}$ twill weave.

Fig. 139 illustrates the 27 degree twill derived from this weave. The weave being on an uneven number of picks, the full number of picks are required for repeat of weave in reclining twill.

20 Degree Grading

Twenty degree grading twills are constructed by using every third pick of a regular 45 degree twill. When the picks in the regular twill are divisible by three, only one-third the number of picks are required for a full repeat of the 20 degree twill, but if the number of picks in the regular twill cannot be divided by three, the full number of picks will be required as for the 45 degree twill.

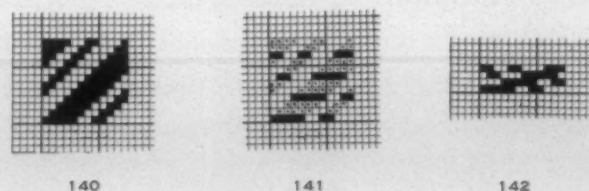


Fig. 140 illustrates the regular $\frac{5}{2}$ twill weave.

Fig. 141 illustrates the same weave having every third pick in different type.

Fig. 142 illustrates the 20 degree twill derived by using

(Continued on Page 42)

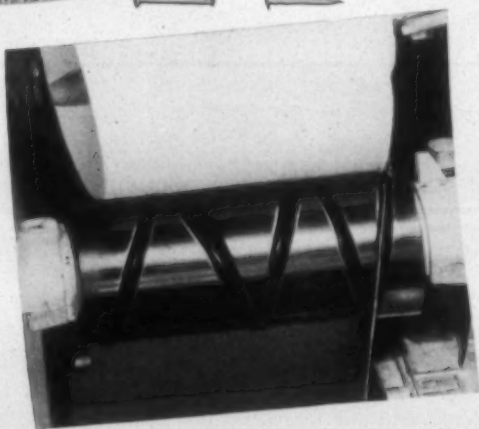
Coming THAT MAKES MONEY AND DELIGHTS CUSTOMERS

The advantage enjoyed by mills operating Roto-Coners* under wartime hardships . . . makes it likely that when the war is over, more and more open-wound knitting cones will be Roto-Cones*. Higher production per spindle with resultant lower-

ing of winding costs . . . plus assurance of uniformly high-quality cones . . . have convinced many mills that their plans for the post-war future should include additional installations of the truly modern drum winder, the Roto-Coner*.

Universal Winding Company

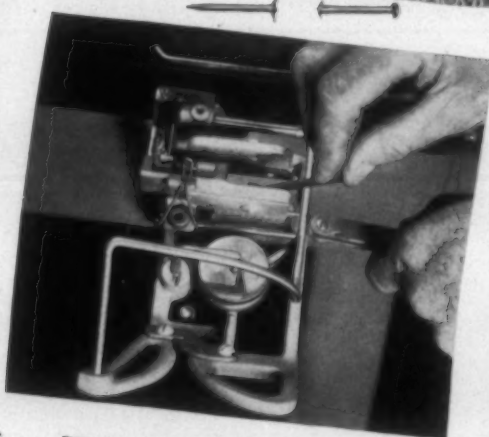
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FAST, CONTINUOUS OPERATION

The Rotating Traverse is a combination driving drum and grooved traversing device. By taking the place of cams and reciprocating parts, it permits much higher winding speeds and also eliminates stops for repairs or replacement of quick-wearing parts. The absence of cams also means that no greasing is necessary. Since practically all moving parts are enclosed and automatically lubricated, maintenance is no problem.

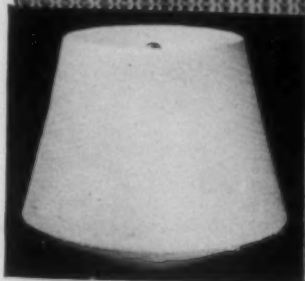
43-44-1



ERROR-PROOF YARN INSPECTION

The Precision Slub Catcher has a patented feature which equalizes the slubbing blades, making it possible to obtain uniform settings on all spindles—without the chance of error due to an operator's "feel". A unique locking arrangement holds the blades securely in a parallel position. Soft-twisted knitting yarns and yarns for dyeing are thus inspected under a uniform control and reach the consumer free from unacceptable imperfections.

*REG. U. S. PAT. OFF.



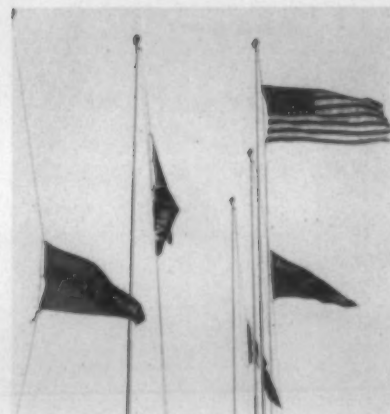
ROTO-CONER

Open-Wind Cones for Knitting

WINDING CONES · DYEING PACKAGES · PATENTED TUNES FOR TWISTING

Southern Mills Receive "E"

Awards for Production Records



Four "E's" and the Stars and Stripes fly for Gossett Mills.

ELABORATE ceremonies attended by many military and civilian officials, business executives and workers, were held during the past two weeks for five Southern textile firms awarded the Army-Navy "E" for distinguished service in production of goods for the armed forces.

Those honored include four Gossett mills in South Carolina, the Aragon (Ga.) Mills Division of A. D. Julliard & Co., Peerless Woolen Mills at Rossville, Ga., the Cone mills at Greensboro, N. C., and Frank Ix & Sons, Charlottesville, Va.

Since these awards one additional firm has been notified that it is to receive a pennant—Shelbyville (Tenn.) Mills of United States Rubber Co.

Gossett Mills

"Not only will these awards be an added incentive to us all to redouble our own war efforts, but they will also inspire others to strive for the country's highest production achievement," said Ben B. Gossett, president of Gossett Mills, in accepting the presentation of Army-Navy "E" flags to four of the organization's plants at Anderson, S. C., May 5.

Maj.-Gen. Edmund B. Gregory, Quartermaster General of the United States Army, made his first appearance at an "E" award in South Carolina in officiating at the presenta-

tion of the highly coveted honor in recognition of excellence in war production.

Four plants of Gossett Mills now are flying the "E" burgee and their workers are wearing the "E" lapel pins. These are the Riverside, Ladlassie and Toxaway plants at Anderson and the Pendleton (S. C.) plant. All received their awards in the single ceremony outside the mill office in Anderson.

Mr. Gossett gave only a brief talk in acceptance of the awards in behalf of the employees and he expressed the pride of the company and pledged that efforts will be unremitting to maintain an excellent program of war production. He made especial reference to the former workers of Gossett Mills who now are in the armed forces, and gave assurance that "those who do return will find a job well done."

Employees receiving the pins for their fellow workers were J. C. Acker of Toxaway, Mrs. Flora S. James of Ladlassie, George Frank Simpson of Pendleton and J. O. Acker of Riverside. Presenting the pins was Captain Guy E. Baker of the Charleston Navy Yard.

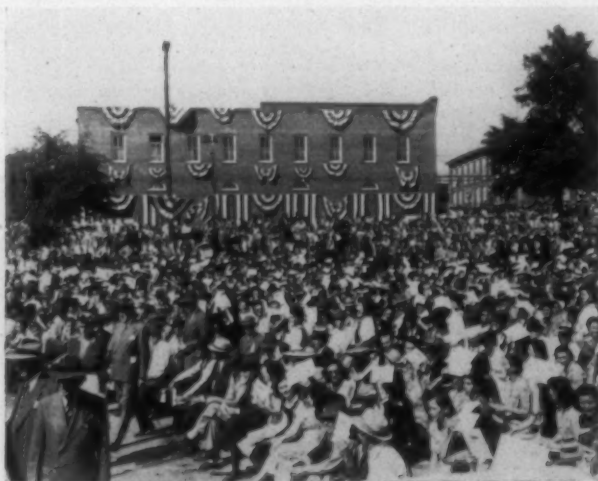
Spokesman for the employees in accepting the award was F. M. Davis of Toxaway, who expressed appreciation of the honor, and said: "We sincerely pledge our best efforts to win this war by outproducing Hitler's slave labor. We want to do our part in equipping the men who are fighting our battles on so many fronts."

Aragon Mills

Recognition was given May 10 to an outstanding war production record when the Army-Navy "E" was presented to the Aragon Mills Division of A. D. Julliard & Co., Inc. Going in for war work in a substantial way, this mill has operated on a three-shift basis, seven consecutive days, or 168 hours a week throughout 1942 and most of the present year. The net result of this exceptional co-operation on the part of labor, plus the efficiency program that has governed, has resulted in bringing output up to four times that of normal.

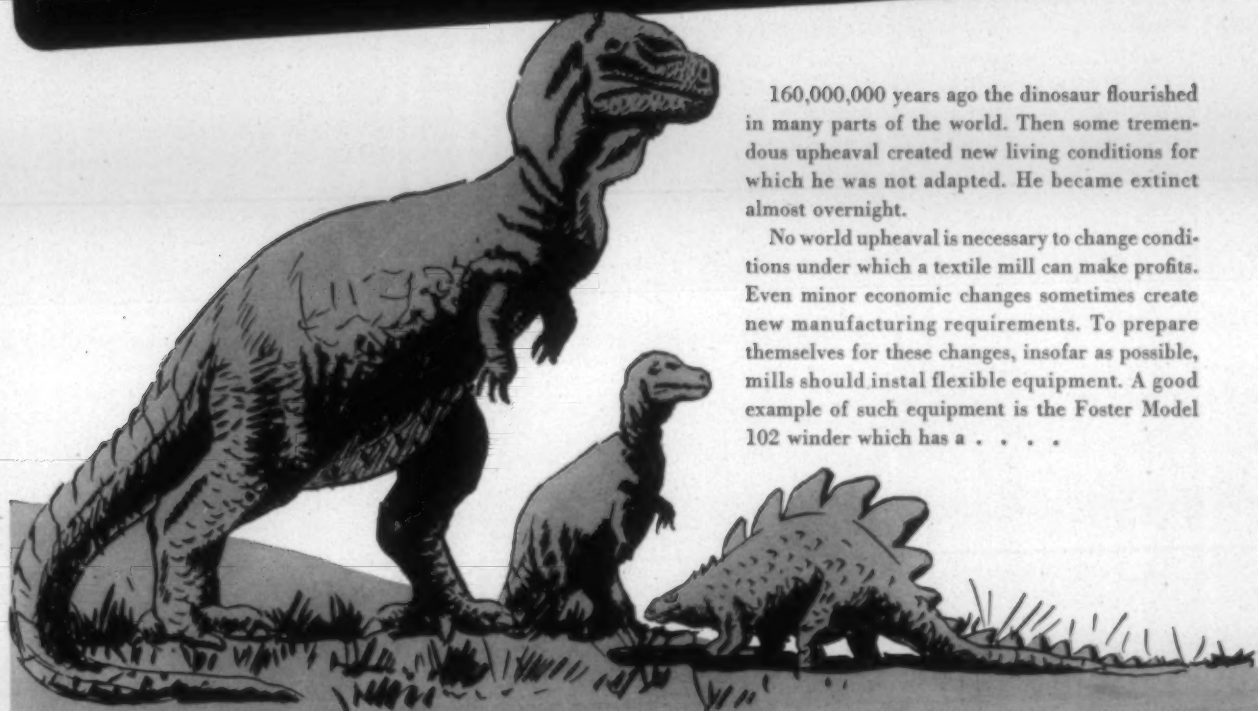
While there have been many impressive production increases among cotton mills doing war work, no such gain has yet been reported anywhere else.

The Aragon Division started making defense materials early in 1940. By the middle of 1941, over 50 per cent of the production was on war goods. Immediately after Pearl



Large crowd at Gossett award presentation.

Help Your Business Avoid the Fate of the Dinosaur



160,000,000 years ago the dinosaur flourished in many parts of the world. Then some tremendous upheaval created new living conditions for which he was not adapted. He became extinct almost overnight.

No world upheaval is necessary to change conditions under which a textile mill can make profits. Even minor economic changes sometimes create new manufacturing requirements. To prepare themselves for these changes, insofar as possible, mills should instal flexible equipment. A good example of such equipment is the Foster Model 102 winder which has a

7-WAY FLEXIBILITY

1 It will wind any kind and any count of staple yarn from fine combed cotton or rayon for tropical fabrics to heavy wool yarns for arctic cloths.

2 It will wind a straight base cone for warping or a convex base cone for knitting with a simple adjustment.

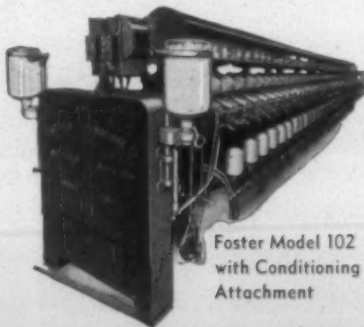
3 It will produce 9 different angles of wind from 9° to 18°. Important if you radically change your count or type of yarn.

4 It will wind package dyed yarn, even if damp. No jumping out of guides.

5 It will wind emulsion treated yarn. In fact, it is frequently equipped with an emulsion attachment.

6 Changeovers from cones to tubes, or vice versa, are comparatively inexpensive.

7 One side can wind cones and the other tubes, if desired.



Foster Model 102
with Conditioning
Attachment

For today or tomorrow, Foster Model 102 Flexibility is an asset that you need. It also gives you **TWICE THE PRODUCTION WITH ONE-THIRD LESS COST** as compared with older Models.

FOSTER MACHINE CO.

WESTFIELD, MASS.

Southern Office
Johnston Bldg., Charlotte, N. C.

FOSTER Model 102

For Winding Cotton • Wool • Worsted • Merino • Mercerized • Spun Silk & Spun Rayon Yarn

Harbor, many additional looms were converted over to making duck. Normally, numbered duck was one of the regular items at Aragon. Today, about 82 per cent of the production of 396 looms and 19,500 spinning spindles is concentrated on Army as well as numbered duck, with the rest on essential civilian goods.

Congratulating the management and employees of Aragon mills for performance "over and above the call of duty," Colonel Hugh S. Harpole, officer in charge of the engineering division of the Jeffersonville (Ind.) Quartermaster Depot, in presenting the Army-Navy "E" flag for excellence in war production, urged them to think of the awards as "military decorations bestowed . . . upon the field of battle."

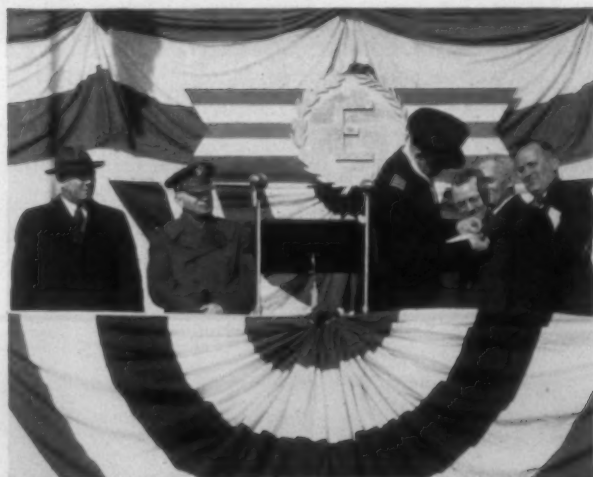
Theodore M. Forbes, executive vice-president of the Cotton Manufacturers Association of Georgia, was master of ceremonies. Robert Westaway, president of A. D. Juilliard & Co., accepted the "E" flag from Colonel Harpole in behalf of the management.

The presentation of the "E" pins to the workers was made by Lieutenant M. C. Verdery, U.S.N.R., of the Office of Inspector of Naval Material, Atlanta. Workers who received the pins, symbolic of the entire organization, were: Henry L. Phillips, Miss Zeller B. Bishop, J. B. Wright and Richard Henry Bishop.

Peerless Woolen Mills

The men in Alaska and in the Aleutians appreciate the high quality of the blankets turned out by the Peerless Woolen Mills, and the men in all the battle fronts of the world appreciate the company's overcoatings and suitings, it was emphasized by Colonel Robert C. Brady, commanding officer of the Philadelphia Quartermaster Depot, in presenting the Army-Navy "E" award to the Peerless plant at ceremonies May 11.

The hum of machinery halted in the large Peerless Woolen Mills sprawled out at the edge of Rossville, six miles from Chattanooga, for an hour as employees joined



Captain Lloyd Harrison of the United States Navy pins the "E" emblem on John Farawell, an employee for 66 years, at the recent Army-Navy production award celebration at Elizabethtown, N. J., plant of Singer Mfg. Co. Others on the platform, left to right, are Mayor James T. Kirk of Elizabethtown, N. J.; Colonel G. B. Welch, U. S. A.; Herbert J. Goosman, works manager, Elizabethtown plant; and Milton C. Lightner, executive vice-president, Singer, which was among the first major companies to change over to the production of vital war material, is still the world's largest manufacturer of industrial sewing machines used in the war effort.

with distinguished Army and Navy officers and others in the ceremonies.

The ceremonies were the green athletic field, a fitting site for a mill whose teams have won many national honors. Long before the new "E" pennant and the American flag were raised on flagstaves at the field there had been a blue



Officials of the four Gossett plants, left to right, are: Newton G. Hardie, general superintendent; J. A. Farmer, vice-president and assistant treasurer; S. H. Lander, executive vice-president and assistant treasurer; S. Frank Jones, secretary and assistant treasurer; and J. W. Wood, general manager.

"T" flag fluttering at the main gate of the plant—a tribute to the employees who are pledged to put 10 per cent of their pay into war bonds.

Army and Navy officials at the ceremonies included Colonel D. G. Richart, commanding officer, Fort Oglethorpe; Colonel Hobart B. Brown, cavalry commandant, Fort Oglethorpe, who is also head of the new WAAC training center; Lieutenant George F. Crowell, Public Relations Office, Atlanta Quartermaster Depot, and Lieutenant A. Sidney Lewis, U. S. N. R., Office of Inspection of Naval Materials, Atlanta District. Lieutenant Lewis presented the employees' "E" pins.

Peerless Woolen Mills was organized in 1905 and started operations in 1906, J. L. Hutcheson being the principal. The mill started out by making jeans on machinery purchased from the old Eclipse Woolen Mills of Louisville, Ky.

The plant was started out with 12 sets of cards and 200 narrow looms; and about 150 employees. The principal product at that time was Kentucky jeans, used mostly in making pants, the goods being sold mainly to wholesale dry goods houses and Southern pants manufacturing houses.

Since that time additions have been made, from time to time, until now the plant has 56 sets of cards and 375 looms of the most up-to-date type, operating 24 hours per day.

The mill is now operating practically 100 per cent on blankets and cloth for the U. S. Army. The principal products prior to the war were men's suitings, overcoatings, sportswear and mackinaws for men's and boys' wear.

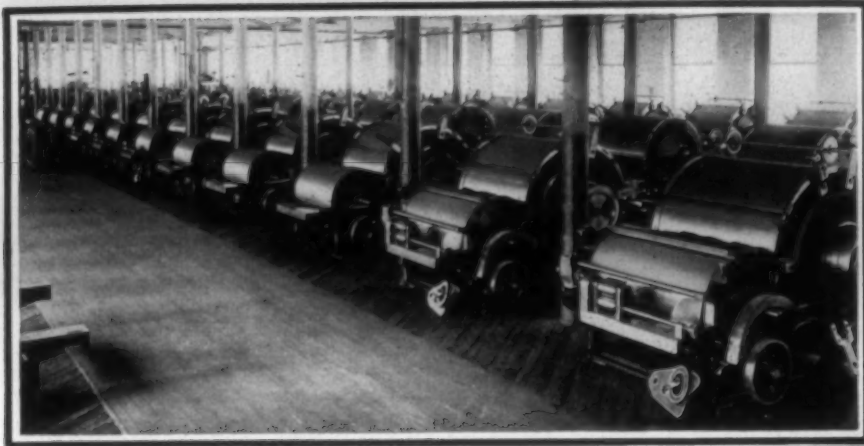
Cone Mills

The Army-Navy "E" award, highest recognition for soldiers of the production front, was conferred upon Cone mills in colorful exercises May 14.

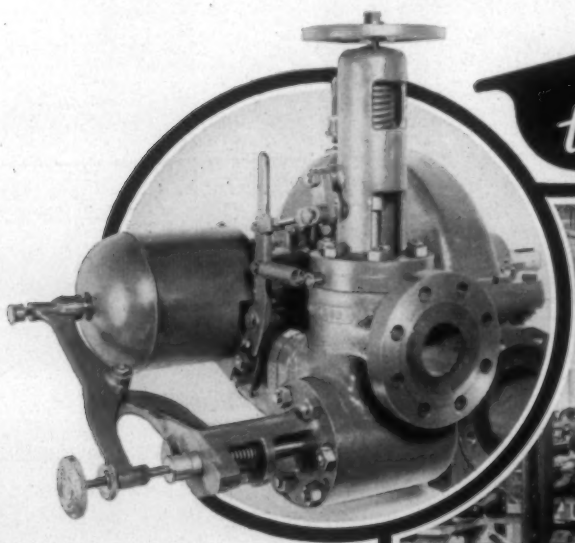
Thousands of employees, members of the community and local citizens attended the exercises, which also attracted a host of out-of-town dignitaries. The wheels of victory pro-

(Continued on Page 56)

from Textiles



to Turbines



On the floor where cotton cards used to be assembled we are now producing mechanical-drive Turbines.

This is only one of many conversions that have been made in our plant in furtherance of the war effort. These Turbines are used aboard ships and in Uncle Sam's busy factories for the production of vital war goods.

P. S. Steam Turbines are especially valuable in high octane gas refineries and synthetic rubber plants where reduction of fire hazard is imperative.

WHITIN MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS, U. S. A.

CHARLOTTE, N. C.

ATLANTA, GA.

MILL NEWS

DANVILLE, VA.—A recent labor dispute at Riverside & Dan River Cotton Mills has been settled, according to a representative of the conciliation service of the Department of Labor.

ST. PAULS, N. C.—Burlington Mills Corp. of Greensboro has purchased Roberson Textiles, Inc., which has 32,000 spindles and 30 looms, and added the mill to the Burlington chain. O. G. Morehead will continue as manager of the unit.

SYLACAUGA, ALA.—The annual spring inspection of Avondale Mills plants was conducted May 3-5. The three-day program began at Pell City, went to Birmingham, Sylacauga, Sycamore, LaFayette and Bevelle, where the various textile plants of the firm were inspected by the visiting guests.

MONTGOMERY, ALA.—Kilby Cotton Mills at Montgomery and Alabama Cotton Mills at Speigner, both operated as part of the state penal system, are producing several million yards of chambray cloth this year on contract to supply 28 garment plants located in various states. The mill at Speigner was reopened after being closed for some time.

HALEYVILLE, ALA.—All employees of Alabama Mills, Inc., totaling 260, are participating in buying war bonds, with 11.5 per cent of the total payroll being deducted every week. Two employees are even having their entire salaries deducted for war bonds. For this record the Haleyville Division has been awarded a Minute Man flag and Treasury Department pennant.

KINGS MOUNTAIN, N. C.—A. A. Shuford of Hickory, N. C., and associates have sold the Frieda Mfg. Co. to I. Rogosin of New York, who operates National Weaving Co. and Beunit Mills, Inc., at Lowell, N. C.

BAMBERG, S. C.—Santee Mills recently received a Treasury Department certificate of award for 90 per cent of the employees buying war bonds regularly. The award was presented by W. P. Bowers, state collector of internal revenue and state war bond sales chairman.

GOLDVILLE, S. C.—A bonus of \$85,000 was distributed recently to all operatives of Joanna Textile Mills Co. who were with the firm continuously for six months or more during the fiscal year ended March 31. W. A. Moorhead, resident manager, stated that the bonus amounted to seven per cent on all wages earned during the year. The plant, which is engaged in the manufacture of window shade cloth, employs 1,100 peoples.

WHITNEL, N. C.—Control of Nelson Cotton Mill Co., which operates 12,320 spindles on combed and carded yarns, has been acquired by R. S. Dickson & Co., investment banking firm of Charlotte. The purchase price was approximately \$400,000. Operation of the two plants will continue under the direction of B. B. Hayes, secretary and treasurer, and R. Barton Hayes, general superintendent of the original firm. Arrangements have been completed to lease the properties to American Yarn & Processing Co. of Mt. Holly, N. C., also a Dickson interest, and production from Nelson Mills will be sold through the national sales organization maintained by the Mt. Holly concern.



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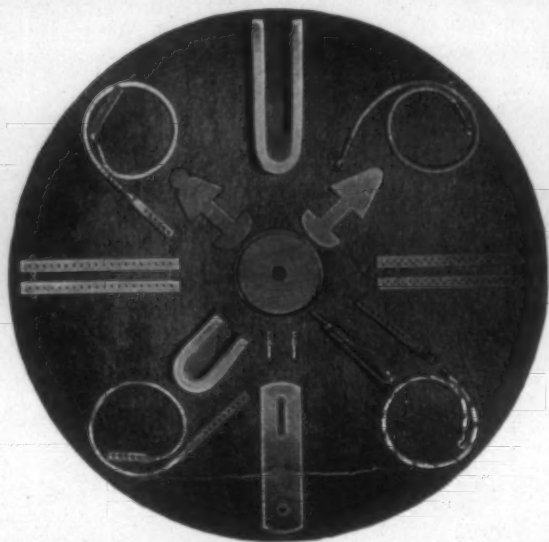
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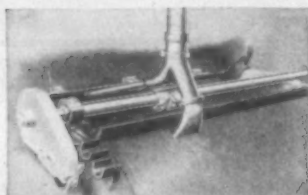


MILLBURY, MASS., U.S.A.

Southern Representative

JOHN P. BATSON + P. O. Box 1055 + Greenville, S. C.

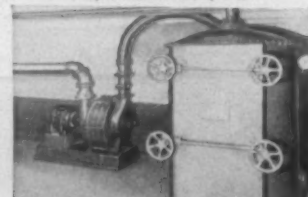
Samples On Request



Abington Vacuum Stripper as used on revolving flat card, strips cylinder and doffer.



Waste Station for collecting flat strips, comber noil, etc.



Centrifugal Pump and Receiver

ABINGTON VACUUM CARD STRIPPING

**Increases production
Conserves manpower
Safeguards quality**

With the Abington Vacuum System, stripping time is so reduced that there is a positive gain of 4% or more in cotton carding production. One worker customarily strips the equivalent of 675 cards once per 8-hr. shift. And because stripping is accomplished so easily and quickly, it is often possible to use an extra stripping per shift as added Product-quality Insurance.

REQUEST STRIPPER CATALOG

**Used in 700 mills
on cotton and wool**

ABINGTON

ABINGTON TEXTILE MCHY. WKS., ABINGTON, MASS.

Vacuum Card Strippers - Yarn Dyeing Systems - Weaver's Knotters
OFFICES AT BOSTON, MASS. • CHARLOTTE, N. C.



In Modern Production

Parks Certified Climate

— REG. U. S. PAT. OFF. —

is not a textile accessory.

It is an integral part of modern high speed textile operations. It has been known to pay for itself in less than a year.

Parks-Cramer Company

Fitchburg, Mass.

Charlotte, N. C.

PERSONAL NEWS

W. P. (Bud) Johnson has been promoted from overseer of weaving to superintendent at Inman (S. C.) Mills.

J. W. Reynolds of Spartanburg, S. C., has become assistant superintendent of Virginia Mfg. Co., Fork Shoals, S. C.

T. B. Reynolds, formerly superintendent of Berryton (Ga.) Mills, is now superintendent of Oconee Textile Co., Whitehall, Ga.

A. D. Asbury, mechanical engineer with J. E. Sirrine & Co., has been elected to the Greenville (S. C.) city school board for two years.

Warren R. Williams, president and treasurer of Sanford (N. C.) Cotton Mills, was recently re-elected mayor of Sanford in the municipal balloting.

Captain William G. Ashmore of Greenville, S. C., formerly Southern editor of *Textile World*, is now serving somewhere overseas in charge of a negro regiment.

Robert L. Johnson, president of Temple University, Philadelphia, has been elected a director of the Armstrong Cork Co., according to an announcement by H. W. Prentis, Jr., company president.

A. W. Eichelberger, for the past two years superintendent of A. Q. Mills, Timmons ville, S. C., will leave that post June 1 to become associated with the Cumberland, Md., plant of Celanese Corp. of America. He had previously been employed by Celanese before working at Timmons ville.

For his part in redesigning the crate which carries the tail fin of a bomb, effecting a tremendous saving in steel, Lieut.-Col. Alexander R. Davis of Charlotte, N. C., and Washington, D. C., has received a distinguished service citation from the War Department.

The citation, signed by Maj.-Gen. L. H. Campbell, chief of ordnance, calls attention to the fact that of the next one million 500-pound bombs dropped on enemy territory a saving of 5,790,000 pounds of steel will be effected through the new design of the bomb crate.



Lieut.-Col. Davis

Lieut.-Col. Davis was recently promoted to his present rank from the rank of major, assigned to the Army Ordnance Department. He entered the service a year ago.

Prior to his entering active service Lieut.-Col. Davis was a member of the sales division of the Saco-Lowell Shops in Charlotte, of which his father, the late Rogers W. Davis, was Southern manager at the time of his death.

Earl Cartee has resigned as overseer of carding and spinning at the Ora Plant of Dover Mill Co., Shelby, N. C., to accept the position of general overseer of carding at Brookside Mills, Knoxville, Tenn.

W. Irving Bullard, president of E. H. Jacobs Mfg. Co., has taken office as a new member of the Charlotte (N. C.) City Council. J. A. Baker, cotton broker, was re-elected as a council member in the recent elections.

L. E. Holler of High Shoals, N. C., is now overseer of the cloth room at Locke Cotton Mills, Concord, N. C. F. J. Little of Davidson, N. C., is now master mechanic and W. H. Hearne is now night superintendent.

J. W. Skipper of Dallas, N. C., well-known through the Carolinas in the engineering, erecting and overhauling of textile machinery, has accepted a position as night superintendent at Hyde Park Mills, Inc., Covington, Tenn.

W. J. Pharr, vice-president and treasurer of Stowe Mills, Inc., has been elected unanimously as mayor of McAdenville, N. C. Town commissioners elected were J. T. Howell, mill superintendent, Marshall Rhyne, assistant superintendent, and George Costner, overseer.

Walter L. Hudson of Columbus, Ga., has been placed in charge of the Victor Ring Traveler Co. territory which includes Georgia, Alabama, Oklahoma, Arkansas, Louisiana, Tennessee and Texas, succeeding the late B. F. Barnes, Jr. He is also in charge of the Atlanta stockroom.

Charles A. Harris was named vice-president of Marion (N. C.) Mfg. Co. at a recent meeting of the board of directors. He was formerly secretary of the firm and has been in its employ for some 20 years. Terry A. Moore, formerly of Alexander Mfg. Co., Forest City, N. C., was elected secretary.

Durton Frierson, vice-president of Dixie Mercerizing Co., Chattanooga, Tenn., has been named chairman of a new post-war planning committee of the Chattanooga Manufacturers Association. He is also a member of a committee for economic development named by the Chattanooga Chamber of Commerce for post-war planning.

A citation reading that he "repeatedly moved in advance of his troops . . . his courageous leadership was responsible in a large part for the successful attainment of an important objective" was read April 5 when General Douglas MacArthur presented the Distinguished Service Cross to Lieutenant Claude E. Clark, Jr., son of the former general overseer of spinning at Riverside & Dan River Cotton Mills, Danville, Va. As reported previously, Lieutenant Clark is a graduate of the Textile School at North Carolina State College, Raleigh.

Houghton Wool Tops

PROMPT SHIPMENT ALL GRADES ON SHORT NOTICE

SUITABLE FOR BLENDS WITH RAYON OR COTTON

Write or Phone Our
Sole Representative
JAMES E. TAYLOR
Telephone 3-3692
CHARLOTTE, N. C.

HOUGHTON
WOOL COMPANY
253 SUMMER STREET ★ BOSTON

"You Can Count on WAK Counters"
They are Rugged, Accurate, Dependable

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WAK INDUSTRIES
CHARLOTTE, N. C.

TEXTILE FINISHES
for COTTON, RAYONS and MIXTURES

TEXTILE OILS — HEAVY CHEMICALS

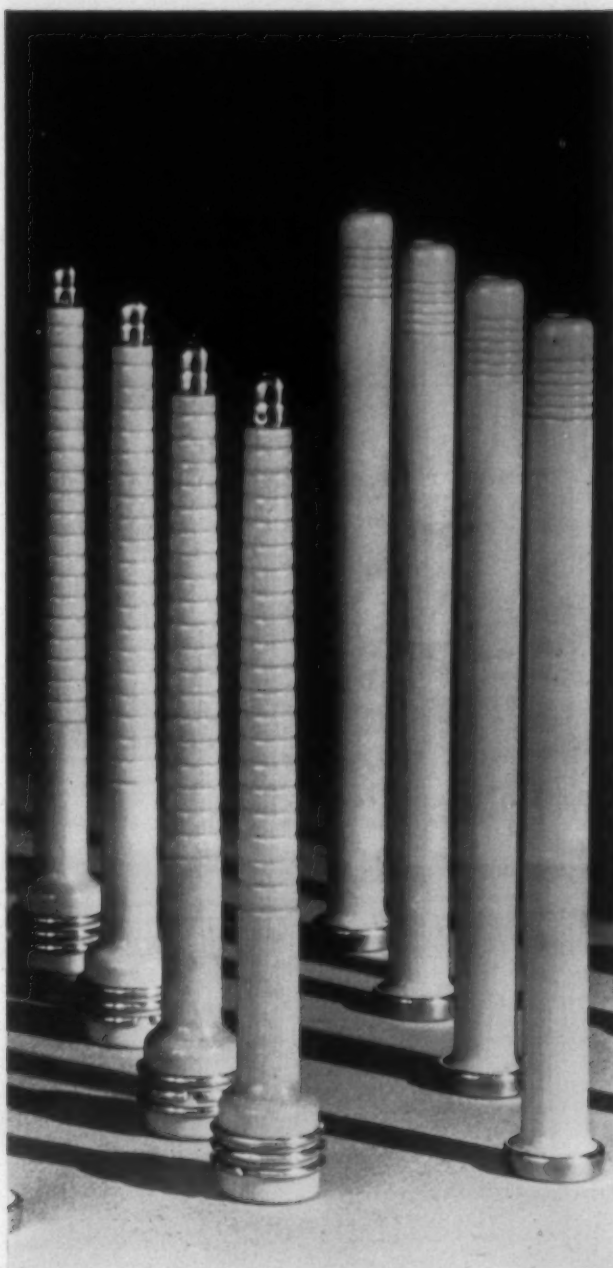
Charlotte Chemical Laboratories, Inc.
Charlotte, North Carolina Founded 1914

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TEXTILE USES

- ★ QUALITY
- ★ UNIFORMITY
- ★ SERVICE

CLINTON COMPANY
CLINTON, IOWA



PRECISION BOBBINS

Top production in the textile industry requires top equipment. PRECISION BOBBINS are accurate, uniform, made to meet exactly your requirements.

Precision Bobbins Are Made By

NEW ENGLAND
BOBBIN & SHUTTLE CO.

George M. Hambleton, Gen. Mgr.
NASHUA, NEW HAMPSHIRE

TEXTILE BULLETIN

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Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

Depreciation Reserve Fund

The Draper Corporation is rendering a real service to the textile industry through the advertisements it is publishing, and the work its representatives are doing, in getting mill corporations to set up a depreciation reserve fund in cash and hold it intact for the purchase of textile machinery after the war.

One mill manager, writing the Draper Corporation, said:

I am very much interested in your current advertisements in which you advise mills to set aside a part of their earnings in a cash reserve.

I am sending you herewith a copy of our statement for the fiscal year, ended December 31, 1942, in which we have done just what is suggested.

Instead of leaving the funds appropriated for depreciation in the quick assets, you will notice that we have segregated the amount and have deposited it in a separate bank account.

As a matter of fact, since the year end we have appropriated an additional \$20,000 so that we now have a fund of \$80,000 all applying to the year 1942. We further expect to use the post-war excess profits tax credit for the rehabilitation of the plant.

On the balance sheet of that mill there are two separate items—

Less reserve for depreciation, \$911,611.17.

Depreciation reserve fund—cash in bank, \$80,000.

That means that when the war ends, which may be earlier than is generally expected, the mill will have in cash and ready for the immediate purchase

of new equipment \$80,000 plus the amount it adds between now and the end of the war.

Many mills do not realize the extent to which their machinery is being worn by operating three shifts under high pressure, and while forced to use, upon the third shift, many incompetent employees.

We were recently in a mill office where accountants were trying to determine whether or not, if the mill took into account the additional wear upon machinery and the fact that it was seldom fully manned, the third shift was resulting in a profit or an actual loss to the company.

The manager was mindful of his obligation to the war effort and the request of the Government for a greater output of cotton goods, but he was also mindful of the arbitrary and grossly unfair position of the Government in refusing to allow for an adequate depreciation to cover the damage to the machinery under third shift conditions.

All textile manufacturers know that third shift wear upon machinery is greater than that of either the first or second shift, in fact, many contend that it is equal to the total wear during the first two shifts, but the Government, while urging a great increase in production, is unwilling to allow depreciation deductions which will justify third shift operations.

When the war ends, textile machinery will be found to be badly worn. If mills are going to be able to compete during the depression period, they will need the best new machinery which can be purchased.

The Draper Corporation and other machinery builders who are urging mills to set up depreciation reserve funds in cash are giving them excellent advice.

No Certainty About Research

We listened, during the recent meeting of the American Cotton Manufacturers Association at Atlanta, Ga., to a prominent cotton manufacturer while he earnestly discussed the need for research in the cotton textile industry.

We thoroughly agree with him that the paper and other industries have benefited greatly from research, and are convinced that the textile industry could receive similar benefits from a practical research program. However, we do not believe that the appropriation of huge sums of money for this purpose will in itself insure that those benefits will be obtained.

In our opinion the results will depend upon the ability of the men who are to be financed in this work and the methods they use, and these men should be selected with the greatest possible care.

We would like to be confident but we cannot conclude that because the pulp and paper industry succeeded with its research and profited greatly thereby, we can definitely and positively obtain large

returns from money spent for research in the cotton textile industry.

Some years ago we spent most of one afternoon at a textile institute at Manchester, England, which had persistently and for years spent large sums upon cotton textile research of a highly technical nature but had conducted few tests within the mills.

Over and over we asked them to describe some actual benefit which the cotton mills of England had received as the result of the research which they had conducted, but we never obtained a satisfactory answer.

They spoke with pride about research on the cellulose contents of textiles fibers and similar technical questions but every time we asked them to describe some tangible benefit which cotton mills had received as the result of their research, they directed the conversation to other subjects.

The greatest field for research has been in medicine, and wonderful results have been obtained. The development of the sulphur drugs is a splendid example of such research.

More money has, however, been spent on cancer research than any other subject connected with medicine or health and yet no cure has been found.

This is one way of saying that research can be conducted without obtaining satisfactory results and that no one can assume that because research upon one problem or one substance resulted in material gains, equal gains can definitely be expected when research is directed to other problems or to other substances.

About two years ago the Textile Foundation of Washington, D. C., allotted to the Southern Textile Association the sum of \$5,000 per year for textile research. It was decided to direct efforts toward improving the operation of cotton mills.

Fortunately the need of more goods for war purposes had caused some mills to increase the speed of their card cylinders from 165 to 190 or 200 and mill managers were wondering what effect the increased speed would have upon the quality of the yarns and their breaking strength.

G. H. Dunlap, who had been employed by the Southern Textile Association, set up tests in many mills and those tests showed that yarns produced with high speed card cylinders were as strong as those produced with lower speeds.

That was an opportune piece of research and it is conservatively estimated that the increase in production benefited Southern cotton mills to the extent of at least \$500,000. One manufacturer has stated in writing that his mill benefited to the extent of at least \$40,000.

We do not wish to throw cold water upon any form of research in the cotton textile industry but we are not certain that there will be an adequate return upon any and all funds spent for textile research and are afraid that some may be disappointed with results obtained.

We do know that the immense rayon and nylon industries are the result of research, most of which was conducted in laboratories, and we are convinced that through research further progress will come.

We very definitely feel that the most certain field for cotton textile research, if it is to be measured by results, is within the cotton mills and that it should take the form of tests to determine the best operation of textile equipment.

Maybe the more highly technical forms of research and the laboratory may produce results which will justify large expenditures by the cotton textile industry, and we certainly hope so, but up to the present time we have seen no results which have given us unlimited confidence that results can be obtained.

Reducing Absenteeism

Here are Office of War Information recommendations for reducing absenteeism by attacking its causes, based on a survey of 18 war plants and 100 workers in each plant:

1. Fact-finding machinery should be established in each plant to discover causes of absenteeism.
2. Support and confidence of workers should be sought to carry out phases of the program.
3. Ease the burdens on working wives and mothers by extending shopping and other hours and providing child-care facilities.
4. Improve bad plant conditions, such as poor heating, inadequate locker and wash-room facilities, slow and insufficient medical attention for accidents.
5. Safety rules and full-time use of safety devices are important.
6. Help workers adjust themselves to new jobs and communities by bettering in-plant training, and providing adequate housing, transportation and recreation. Management needs to convince employees that it is all-out for production and does not discriminate in promotion and up-grading.
7. Prevention and remedy are better than punishment.

Madame Perkins Says

Secretary of Labor Perkins has issued a statement evidently intended to help John L. Lewis get part of the wage advance which was refused his coal miners by the War Labor Board.

Madame Perkins said:

I never knew a labor dispute that wasn't settled by compromise and certainly I would say that that is applicable to the coal mine situation.

If she is right any group of employees can get a raise in pay at any time they desire it.

All they have to do is to ask for several times the advance they expect to obtain and then compromise for the amount they really desire.



"ACME STEEL" ON THE SEAL FOR PERFECT SHIPPING

Your shipments are "Bound to Get There" when protected with Acme Bale Ties and Steelstrap. Applied with fast-operating Acme strapping equipment, these Acme reinforcing procedures help to keep up with the rush war-time requirements.

The clean finish and smooth edges of Acme Bale Ties and Steelstrap eliminate the possibility of damage. Furnished in all widths and gauges . . . in continuous-length coils and in cut lengths. Acme tools and accessories are available for every need. The Acme No. 9 Sealer, for instance, is preferred by many millmen. Light in weight, this heavy-duty bale sealing tool permits a stronger joint with less effort.

With carton packs, many mills employ Acme Steelstrappers — one piece, magazine seal-fed strapping tools which do the job faster and easier. Acme Bale Ties and Steelstrap meet all Federal Strapping Specifications. Write today for all the facts.



Cartons, too, are often classed as bales when steel-strapped, which also serves as a means of closure and reinforcement against damage and pilferage.

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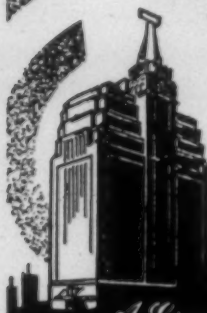
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DYEING AND FINISHING

Turning Minus Products Into Plus Ones

By GEORGE BROWN
PART THREE

THE viscose process has proven to be the large volume producer of artificial fibers and its discovery is credited to the investigation of the English scientists, Cross, Bevan and Beadle.

Through the engineering and manufacturing ability of Stearn, the viscose discoveries of Cross, Bevan and Beadle were put into operation around 1899-1900.

The viscose process is a much more complicated process than either the nitrocellulose or cuprammonium processes and the development of this process, while helped greatly by knowledge gained from the manufacturing ideas used in these two older processes, required many years of intense collaboration between the chemists and plant engineers.

The discoverers of the viscose process based their patentable ideas on the dissolving (mercerizing) of purified cellulosic material by a strong caustic soda solution, then treating the alkali cellulose solution with a given amount of carbon bisulfide thus creating the xanthation operation.

At this point, the leaders in improving and developing this viscose process were stopped short of success until they accidentally discovered that by proper ageing of this treated alkali cellulose from the xanthation process, they were then able to produce a more uniform fiber.

Topham's Spinning Pot

The second important step in the development of the viscose process was the invention by Topham of the centrifugal spinning pot whereby the precipitated viscose fiber is laid inside the pot and due to the centrifugal action of the pot, the fiber lies against the side and forms a yarn cake. With the working out of these two major manufacturing developments, the viscose process rapidly forged ahead and was able to produce a more uniform low cost artificial fiber than any other process.

This pioneer English company, later known as Courtauld, then gained control of the viscose company in this country. Since the beginning of World War II the control of American Viscose Corp. has passed under American ownership and direction.

A very large percentage of all rayon made is produced by the viscose process, which is now simplified, and these are some of the chief refinements in the process. One of the refinements in the processing of rayon is the great progress

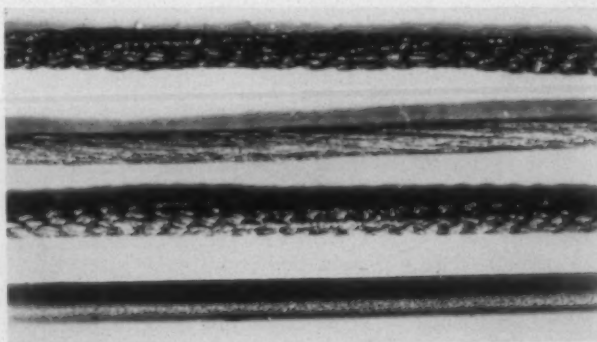
made in the control of delustering or pigmenting viscose rayon, as well as acetate rayon. The original rayon yarns were very bright and lustrous and naturally as soon as the rayon manufacturers had worked out the manufacturing process to their satisfaction, they sought means and methods to make yarns with reduced luster, approximating that of a pure silk fiber and yarn.

The various rayon companies devised means and methods to measure the reduction of the luster through the effect of delustering materials on the rayon fibers. The reduction of the luster required a detailed study of light reflection and diffusion on the surface of rayon fibers.

During the initial stage of delustering development of bright rayons, the dyeing and finishing plants finished these rayon fabrics by precipitating some type of metallic salt on the surface of the goods. The dyers and finishers found out this was only a temporary finish and usually gave an undesirable crunchy and harsh "hand" to the finished goods.

Rayon yarn plants started incorporating waxes and petroleum oils in with the rayon spinning solutions and thus incorporated the delusterant within the rayon yarn, not on the surface.

After many years of experimentation, it was found that the waxes and petroleum compounds hindered the progress of improving the dyeing and finishing operations; so it was then that metallic (inorganic) pigments were brought into use as delusterants. The most widely known and used inorganic pigment is titanium dioxide and it is incorporated



These enlarged sections show the difference in structure and appearance between a surgical suture of nylon monofilament (top), and ones of silk. Smooth, solid nylon is stronger and less irritating than silk to the body's tissues. Millions of feet that formerly went into tennis racquet strings and fishing leaders now replace silk in sutures for the Army, Navy, civilians and Lend-Lease shipments.

*American Dyestuff Reporter, February 17, 1941, page 85. "Nylon as a Textile Fiber."



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folks—and your Secretary—that you can be reached at the Atlanta Biltmore—the preferred hotel for those on business, or pleasure, or both. You'll find it the next best place to home—convenient to everything, yet comfortably quiet—clean, modern appointments, and unsurpassed service—that's why it is called "The South's Supreme Hotel." Make your reservation now! Rates from \$3.00.

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Spartanburg, S. C. Montgomery & Crawford

into the spinning solutions and spun, thus incorporating within the fiber the pigmenting agent.

There are various degrees of pigmentation from medium to very low or much lower than pure silk which was even delustered to follow the trend of fashion started by the delustering of rayons.

Some of the large producers of viscose process rayon are: E. I. duPont de Nemours, American Viscose Corp., Tubize-Chatillon Corp., North American Rayon Corp., Industrial Rayon Corp., American Enka Corp.

In the United States, the term *rayon* was selected to identify synthetic fiber produced through manufacturing processes, though other countries still use the dubious nomenclature *artificial silk*. Germany identified these fibers under the term *Glanzstoff*.

Nylon—Protein-Like Synthetic Fiber

The discovery and development of nylon, a yarn spun from a polyamide, by the DuPont research chemists is recognized as one of the outstanding chemical achievements of our present remarkable age of chemical development. Quoting from an interesting talk delivered by Dr. G. P. Hoff before the American Chemical Society in 1941, the general physical properties of nylon may be synopsized as follows:

"Nylon is the generic name for all synthetic fiber-forming polymeric amides having a protein-like chemical structure, derivable from coal, air and water or other substances and characterized by extreme toughness and strength. Structurally nylon may be related to the natural proteins such as silk and wool.

"In a test where yarn samples were stretched four per cent, held for 100 seconds and measured 60 seconds after the load was released, nylon showed 100 per cent recovery in comparison to 50 for natural silk, 50 for acetate rayon, 40 for cordura (high tenacity) rayon and 30 for ordinary viscose rayon. These fibers are also compared in respect to wet and dry strength and water absorption at 60 per cent relative humidity.

"Nylon is known to be crystalline. The melt-extruded filaments as originally produced are capable of easy orientation through stretching with relatively little force required to accomplish a fourfold increase in length. The new length and proportionately reduced diameter are essentially permanent. The oriented yarn is strong, elastic and tough. It is notable for its ability to take a permanent set through simple treatments with boiling water or steam. Nylon yarn and fabrics are practically nonflammable. Nylon is physiologically inert and has found use in the form of surgical sutures. It is resistant to enzymes, mildew, molds and moths."

As to the chemical, dyeing, and wet processing properties of nylon, it possesses distinct properties as compared with acetate, viscose and cuprammonium rayons as well as the natural fibers, silk and wool to which nylon is chemically alike.

According to P. H. Stott, nylon possesses the following chemical properties of interest and value for textile processing, dyeing and finishing:

Reducing agents show no effect on nylon fiber.

Oxidizing agents as a whole show no damaging effect on nylon fiber.

Sodium hypochlorite bleaches nylon partially, not fully.

Sodium and hydrogen peroxide show similar bleaching action as hypochlorite except that the peroxide bleach is usually carried out at raised temperature, while hypochlorites are run cold.

Potassium permanganate possesses the highest bleaching action on nylon. All acids in concentration up to five per cent in cold solution show no effect on nylon while hot solutions cause hydrolysis of nylon fiber.

Concentrated formic acid dissolves nylon, while acetic acid possesses no dissolving or swelling action on nylon fiber.

Nylon is highly resistant to alkali, as tests have shown that when treated with a five or ten per cent caustic solution, there is not over a five per cent loss in strength.

The dyeing and finishing properties of nylon are distinct as experimental and plant work has shown its dyeing properties are different from practically all synthetic fibers except acetate rayon. Nylon may be dyed with many of the acetate colors and a very interesting point is that many of the acetate colors give greatly improved dyeing value and fastness when dyed on nylon as compared to acetate.

At the present, nylon hose and other fabrics are processed and dyed chiefly with selected acetate colors; though in the future a special range of colors prepared for nylon fibers may be offered the dyers and finishers.

Spartanburg County To Fete Textiles

A "Textiles Go To War" celebration will be held May 29, 30 and 31 by Spartanburg County, S. C. The three-day event will be climaxed the night of May 31 with an address, carried over a nationwide radio hookup, by Justice James F. Brynes, national director of economic stabilization. Justice Brynes was practicing law in Spartanburg when he was elected to the U. S. Senate, from which post he went to the U. S. Supreme Court, only to resign to take the stabilization appointment.

"From the Fields to the Front" will be the theme of the observance which will do honor to the 20,000-odd textile workers in plants of this county. Spartanburg ranks among the leaders.

A military display from the Army Quartermaster Corps of pieces of equipment and supplies made from cotton fabrics produced in the county, participation of parachute troops, a novel parade of cotton, a novel parade of cotton, a beauty pageant among textile employees and other features crowd the three-day program.

Several nationwide broadcasts are being sought and the Vox Pop program has been tentatively scheduled to originate from Spartanburg during the observance.

Invitations have gone out to all the governors of the cotton-growing states. Four former governors of South Carolina—U. S. Senator Burnet R. Maybank, Robert A. Cooper, district judge of Puerto Rico; Martin F. Ansel of Greenville, and R. M. Jefferies of Walterboro—and the present governor, Olin D. Johnston, a resident of Spartanburg, are expected.

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New Permanent Cellulose Finish Produced By Hart Products Co.

The Hart Products Co. announces Kopan, a permanent cellulose finish. This new product is a major development in modern fabric finishing. It is suitable for sheets, damasks, shirtings and many types of knitted and woven fabrics. Imparts to each fiber a permanent coating which adds to durability, strength and appearance. Among the many advantages claimed for Kopan are included:

Excellent shrinkage control—minimizes shrinking and stretching in laundering and dry cleaning. An active aid to sanforizing.

Increased tensile strength—fabrics are more resistant to abrasion and wear.

Even penetration—produces a clean, smooth surface. Spreads evenly with pigment colors, providing uniform and clear shades.

Eliminates slippage—anchors each thread, thus minimizing fraying and displacement.

Wide application—available in several viscosities to provide a great variety of desired finishes with the required hand and appearance.

An excellent binder—works perfectly with fillers, pigments and weighting compounds.

Easy to use—may be applied before boil-off, during mercerization, before or after dyeing or bleaching—or as final finish.

Economical—low cost helps meet production standards. No special machinery required.

Kopan is a natural outgrowth of the successful use of Permalon for military fabrics. Millions of yards of mosquito and head nettings for use by our armed forces have been processed with Permalon. Kopan possesses all the advantages of Permalon plus a flexibility of formula which permits extensive variations for civilian uses and specific fabrics. Only finest quality cellulose is used in making Kopan.

The versatility of Kopan is constantly widening its field

of application. The technical staff of the Hart Products Corp. will co-operate with manufacturers and processors who wish to develop a Kopan formula for their special needs.

Use of Ethyl Cellulose Restricted

Use of ethyl cellulose except on specific authorization of the War Production Board has been restricted through issuance by WPB of General Preference Order M-175 as amended, effective May 10. Ethyl cellulose is used in lacquers, coated textiles and plastics.

The amended order eliminates the general 50-pound exemption for small orders and substitutes a general ten-pound exemption and an exemption of 50 pounds in the case of acceptance or use for experimental purposes.

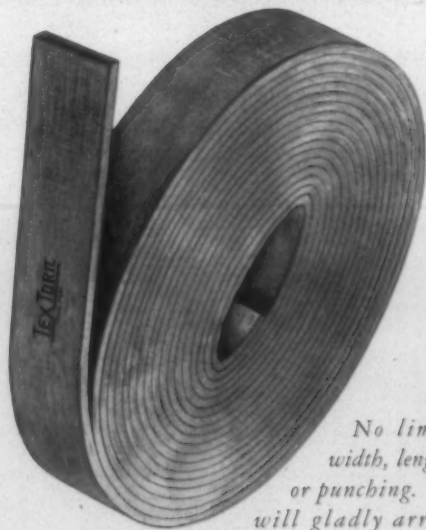
Use of standard chemicals allocation forms PD-600 and PD-501 by applicants for authorization to deliver, accept delivery of or use ethyl cellulose is provided.

The amended order also provides that ethyl cellulose allocated for inventory may not be used except as specifically authorized or directed in writing by WPB. Ethyl cellulose allocated to fill anticipated orders for specified primary products and product end uses may not be converted into primary products with the product end uses specified.

Ethyl cellulose allocated to fill an order on hand which is subsequently cancelled prior to the conversion of such ethyl cellulose into a primary product—and ethyl cellulose allocated to fill anticipated orders which fail to materialize—shall revert to inventory as though originally allocated therefor.

A manufacturer who uses ethyl cellulose in any product and who is required to obtain specific written authorization from WPB to receive or use such ethyl cellulose shall not accept or fill an order for such product unless the person placing the order, at or prior to the time of placing the order, shall have filed a certificate specifying the ultimate use to which such product is to be put.

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With industry setting its sights at ever higher production levels, controlled uniformity is absolutely necessary.

TEXTORIC, the synthetic loom strapping, brings precision uniformity to its job, thus eliminating one variable factor in loom operation.

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Cotton and Rayon Converter-Jobbers Warned By OPA

Converter-jobbers who job larger percentages of cotton and rayon finished piece goods than the percentages authorized by OPA do so "at their own peril," the Office of Price Administration asserted recently.

Order No. 8 under Maximum Price Regulation No. 127, issued March 13, 1943, specifies for some 400 individual converters of piece goods, who also had carried on a jobbing business, the exact percentage of jobbing sales on which they are permitted to take a mark-up in relation to their total transactions. These individual percentage figures apply to the period between July 1, 1942, and June 30, 1943, and to each 12-month period thereafter. They are based on each converter's transactions over a three-year period prior to January 1, 1942.

Regulation 127 prohibits a converter from charging a mark-up on jobbed goods until he has complied with certain requirements set forth in the regulation. Such restrictions were embodied in the regulation for the purpose of preventing an excessive handling of goods in a scarcity market and the resultant unwarranted mark-ups on second-hand sales of goods. The OPA policy allows a jobber who has previously acted in the capacity of a jobber in a competitive market and who has complied with other requirements to continue such operations on the basis of the past record.

Reports have reached OPA that some converters of finished piece goods who also act as jobbers have disregarded

the percentage allotments of jobbing sales they make in relationship to their total transactions. The situation is reportedly due to unfounded rumors circulating in the converting trade that the stipulated limitations on jobbing sales soon will be relaxed or revoked.

OPA denied that it has any intention of taking such action and stated that "any move to disregard this limitation must be condemned as inflationary in effect. Such persons act at their own peril since they are subject to the penalty provisions of the Emergency Price Control Act," OPA said.

Pillow Case Loom Conversion Discussed

The conversion of certain available cotton pillow case looms to the production of some material suitable for Army raincoats was discussed at a meeting of the Bed Sheet Industry Advisory Committee and Government officials recently. J. M. Mitherow, chief of the carded gray goods section of the Cotton Branch, Textile, Clothing and Leather Division, WPB, presided.

Requirements of the military were presented by members of the Quartermaster Corp, to the committee and a discussion of the number and types of looms, in relation the needed gray, bleached and finished material ensued. No final conclusions or arrangements for immediate conversion were made, as the meeting was entirely exploratory in nature.

It was made clear, however, that if a program is finally adopted, it will apply only partially to looms now engaged in production of pillow cases.

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Shortage of Workers Acute in Scottish Textile Industry

The difficulties being met by spinning, silk and textile firms in Scotland in staffing their works is growing weekly more acute and promises to be a major factor in the continuation of the output by such works.

The position is particularly acute in the west of Scotland where a very large amount of the clothing prepared is for military requirements and where spinning mills supply a vast area and a considerable percentage of Scottish and expert requirements.

In Paisley, center of the spinning and thread-making industry in Scotland, the shortage has become so difficult that work in the factories of J. and P. Coats has been placed on the same category as royal ordnance factory work, and volunteer workers are being called to help in the emergency.

An operative, after 44 years of service, once retired, has returned to do part time work while still another, a pensioner of the firm and mother of five children, is back doing full time work.

The problem is being met in other cases, and particularly by one silk throwing firm to establish training centers where workers are trained for their job and paid while training.

The major difficulty facing the Scottish plants in this war-time period is that labor being so much in demand, there is a very greatly decreased readiness to enter the silk or other textile trades while high wages in other industries and particularly in the armament wages plus the glamour of the services, are drawing off potential workers in the textile industry.

The experiences quoted above and the known dislike of young girls to enter the industry point to a very grave post-war shortage of trained labor in the silk, rayon and textile industries and the necessity to meet it by a bold policy of training.

A start to such a system has been made in Edinburgh where recently the Scottish section of the Textile Institute heard reports of the Leeds conference of the Woolen Industries Research Association and the Manchester meeting of the Cotton Board. Dr. A. W. Stevenson reported that both meetings enthusiastically welcomed the starting of more developed schemes for the recruitment and training of entrants into the textile industries.

Practical Textile Designing

(Continued from Page 24)

the solid type. The pattern is complete on 12 threads and four picks.

6 2

Fig. 143 illustrates the regular twill weave.

5 4

Fig. 144 illustrates the 20 degree twill derived from this weave. The weave not being divisible by three, the full number of picks are required as for the 45 degree twill.

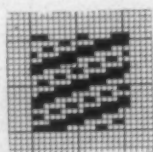
15 Degree Grading

Fifteen degree grading twills are constructed by using every fourth pick of a regular 45 degree twill. When the picks in the twill are divisible by four, only one-fourth the

number of picks are required in the 15 degree twill. When the regular twill repeats on an even number of threads but is not divisible by four, the 15 degree twill will be complete on one-half the number of picks. When the regular twill repeats on an uneven number of picks, the full num-



143



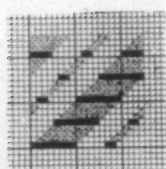
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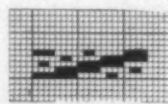
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ber of picks will be required as for the 45 degree twill. The following examples will illustrate the different constructions:

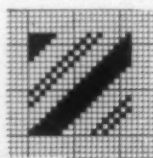
Fig. 145 illustrates the regular $\frac{8}{5} \frac{2}{5}$ twill weave.



146



147
149



148

Fig. 146 illustrates the same weave having every fourth pick in different type.

Fig. 147 illustrates the 15 degree twill derived by using the solid type. The pattern is complete on 20 threads and five picks.

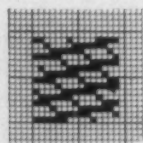
Fig. 148 illustrates the regular $\frac{6}{5} \frac{1}{1} \frac{1}{4}$ twill weave.

Fig. 149 illustrates the 15 degree twill derived from this weave. The weave being on an even number of picks, but not divisible by four, only half the number of picks are required for the repeat of reclining twill.

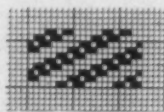
Fig. 150 illustrates the regular $\frac{6}{4} \frac{1}{4}$ twill weave.



150



151



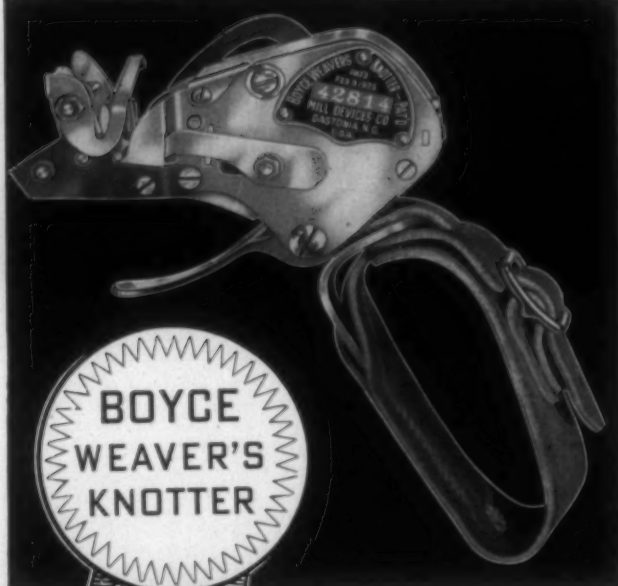
152

Fig. 151 illustrates the 15 degree twill derived from this weave. The weave being on an uneven number of picks, the full number of picks are required for the repeat of the reclining twill.

Fig. 152, which shows two repeats, illustrates a 27 degree twill, the foundation weave being a $\frac{2}{5} \frac{2}{1}$ twill.

Being on an even number of picks, only five picks are required for a full repeat of the pattern.

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Ties a weaver's knot and clips the ends—quicker, easier, better.

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NEWNAN, GEORGIA
ESTABLISHED 1854

W. R. Godfrey Is Japanese Prisoner

W. R. Godfrey, who was with Barber-Colman Co. for many years and later with Abbott Machine Co., was reported missing in action May 7, 1942, but according to a recent report is a prisoner of the Japanese.

Fibrous Glass Textiles Are Now Under Allocation

Prospects that the armed forces will be able to meet new, growing and critical needs through the use of fibrous glass textiles, and combinations of fibrous glass textiles with other materials have been enhanced by issuance of Conservation Order M-282 placing fibrous glass textiles under allocation, effective April 1, 1943, the Cork, Asbestos and Fibrous Glass Division of the War Production Board stated recently.

During the past three years there has been at least a four-fold increase in the production of fibrous glass textiles, according to Fred W. Gardner, director of the division. The addition of large numbers of women workers, expansion of facilities and study directed to the speeding up of production processes is expected to effect a further material growth in output in 1943.

The allocation order makes it possible to direct increasing production into lines most vital to the prosecution of the war. In addition to numerous current war uses of fibrous glass textiles, research is being conducted to adapt them to meet needs of the armed forces for fabrics possessing a hitherto unobtainable degree of heat resistance, and for lighter weight, stronger structural materials.

Glass fibers able to withstand temperatures of 2,000° F. and with a tensile strength of 1,000,000 pounds per square inch have been produced experimentally. Means have been found to utilize the high tensile strength of the fibers to produce structural materials having an unusually high strength-weight ratio.

Uses of fibrous glass textiles by the Army or Navy include glass cloth for parachute flare shades and insulation for electrical equipment in planes, tanks and ship propulsion machinery and deck motors. Use by the Navy of glass cloth backed by boards composed of compressed glass fibers has saved millions of pounds of aluminum formerly required for interior sheathing in fighting ships and auxiliary vessels.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

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L. J. CASTLE
CHARLOTTE, N. C.

Regular Work Schedules Requested

Full-time regular schedules of work in essential war industries over the May 30-31 and July 4-5 week-ends have been asked by War Production Board Chairman Donald M. Nelson in a statement urging that wherever feasible the traditional civic observances of Memorial Day and Independence Day should be held on Sunday.

"The capture of Bizerte and Tunis shows that the weight of United Nations' total war effort is bringing magnificent results on the field of battle. We must work all the harder to take full advantage of the victories that the fighting men of our country and our Allies are winning," he said.

"By having the usual civic celebrations of May 30 and July 4 on Sunday, we can keep production at higher levels than if the observances of these historic holidays are held on Mondays," Mr. Nelson declared.

This recommendation is aimed at attaining full production of essential war goods, it was pointed out, and does not involve questions of compensation in places where Sunday holidays are regularly observed on Monday. Mr. Nelson explained that policies as to holiday compensation are set forth in the President Executive Order 9240.

"Our goal is simply to assure maximum production of sorely needed munitions. For this purpose," Mr. Nelson concluded, "I strongly urge that factories engaged in making essential war goods maintain their full-time regular schedules of production on May 30 and 31 and July 4 and 5."

Georgia Cotton Manufacturers To Hold Meeting May 18 in Atlanta

The 43rd annual meeting of the Cotton Manufacturers Association of Georgia will take place at the Athletic Club in Atlanta May 18, according to an announcement by T. M. Forbes, executive vice-president.

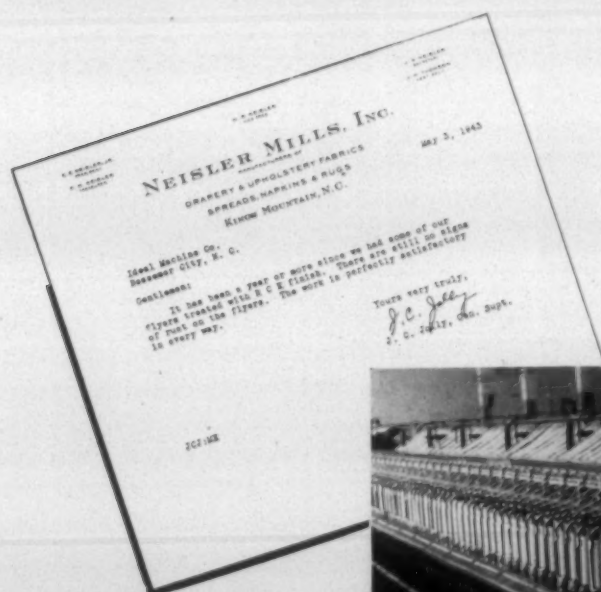
The meeting will consist of a streamlined business program without social features or entertainment. It will open with an informal reception at the Athletic Club at noon, with luncheon beginning at 12:30 p. m. Guest speaker at the luncheon will be Governor Ellis Arnall of Georgia.

Following this there will be a business session at which various subjects of interest to the textile industry will be discussed, along with presentation of the usual reports of officers and committees.

Quaker Employees Buying Bonds

Quaker Chemical Products Corp., Conshohocken, Pa., has been awarded the Bull's Eye insignia to be attached to its Minute Man Flag in recognition of its part in advancing the sale of War Bonds. Currently, 100 per cent of the company's personnel has subscribed to the purchase of bonds in an amount which is 11.2 per cent of the total payroll.

The company also announces that Robert S. Moore, a native of Canada, has recently joined its research staff. Mr. Moore received his M.S. degree from the California Institute of Technology and has been employed by the oil industry on the West Coast until coming with Quaker.



Have your flyers "precision balanced" at maximum speeds, by the IDEAL BALANCING MACHINE. Worn spindles completely rebuilt to give the same service as new spindles.

Another Mill Endorses R C K

—A Smooth, Glossy, Black,
Rust-Resisting Finish for Flyers

Neisler Mills, Inc., Kings Mountain, N. C., is one of many Southern mills that have had, or are having their flyers R C K finished.



At left is shown a 1910 model Saco-Pettee 8x4 frame with flyers which were treated with R C K more than a year ago.

"There are still no signs of rust" on these flyers at Neisler Mills, according to General Superintendent J. C. Jolly.

IDEAL MACHINE SHOPS, Bessemer City, N. C.

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Textile Machinery and Supplies

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ER, AND CLEARER CLOTHS
"G B C" SPECIAL ROLLER
CLOTHS
HOLT'S ROLLER GLUE
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WILSON'S CANVAS LUG STRAPS
DAYTON "THOROUGHREDD" LOOM
SUPPLIES
DAYTON V-BELTS AND PULLEYS



**GREENVILLE BELTING
COMPANY**

Manufacturers of Leather Belting
Phone 2218 (Day) 3916 (Nite)

WANTED

Southern Sales Representative

Nationally recognized manufacturer of textile chemical specialties with headquarters in New York City seeks services of highly experienced sales representative to reside in either Atlanta, Ga., or Columbus, Ga. This is an unusual opportunity for enterprising representative with technical and practical background. Applicants must state age, draft status, experience and references to insure interview. All letters held in strict confidence. Our organization knows of this advertisement.

Address "A. G. C."
c/o Textile Bulletin.

WANTED

One Shift Foreman for 4,800-spindle coarse yarn mill. Applicant must be qualified to look after twisting, winding and spinning. Job available on first shift. This job pays 80c per hour. Mill now operating on six days, eight-hour shift basis. Also state qualifications, draft status, and send references.

Address "Foreman,"
c/o Textile Bulletin.

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Patent Attorney

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Former Member Examining Corps
U.S. Patent Office

FOR SALE

Complete machinery for manufacture of Sizing and Sulfanate Products, consisting of:

- 1—Large Steel Jacketed Kettle, 550 gal.
- 1—Cast Iron 300 gal. Tank.
- 1—500 gal. Wooden Tank.
- 1—600 gal. Lead Lined Sulfanating Tank.
- 6—Jacketed Kettles.
- 1—Homogenizer Machine with Motor, 200 gal. capacity.
- 1—30 H. P. Upright Boiler.

Inspection invited—See or write

CHARLES R. ALLEN

16 Vendue Range, Charleston, S. C.

FOR SALE

- 10—Gangs—6 Spindles each of Foster No. 7 Close Winders.
- 1—Style 2 SS Barber-Colman Drawing-In Machine.
- 1—Style 2 JJ Barber-Colman Drawing-In Machine.

Write Box 709, Anderson, S. C.

EMPLOYMENT SERVICE

We invite correspondence with employers seeking men and men seeking positions. Over 40 years in business, serving Southern and Northern mills.

Charles P. Raymond Service, Inc.
294 Washington Street
Boston, Mass.

WANTED

Overseer of Spinning between ages of 35 and 55. High school education preferred. Only those with experience in running large rooms and capable of commanding top salary need apply.

Write "Box B-C."
c/o Textile Bulletin.

WANTED

Loom Fixers for Stafford and Draper 40" Loom. Good pay, plain work.

Address "Fixers,"
c/o Textile Bulletin.

FOR SALE

- 4—Whitin 10x5x84 Sp. Intermediates.
- 6—S-P 9x4½x84 Sp. Intermediates.
- 6—Wet Tape Drive Twisters, 2½" ga., 288 sp. ea.
- 15—S-L Dry Tape Drive Twisters, 3" ga., 216 sp. ea.
- 3—Collins Novelty Twisters, 4" ga., 3" Ring, 144 sp. ea.
- 8—No. 90 Universal Filling Winders with Bunch Builders.
- 1—C & M No. 25 Sew. Roll. & Meas. Machine, 50" goods.
- 1—Termaco Roving Bobbin Stripper, 11½" bobbins.
- 1—Scott Comb. Yarn & Cloth Tester, J-2, 100-400 Lb. Cap.
- 1—Tolhurst 40" Extractor, Belt Drive.

J. H. WINDLE & CO.
231 So. Main St. Providence, R. I.
Tel. Gaspee 6464

WANTED

Personnel manager for cotton mill of about twelve hundred employees. Capable of taking complete charge of the personnel work. Please give age, experience and salary desired.

Write "Manager,"
c/o Textile Bulletin.

WANTED

To communicate with carded yarn mill with 8,000 to 12,000 spindles on counts 8's to 16's, which is not making satisfactory profit, or would be interested in making more profit than is possible on items covered by ceiling prices.

Address "Box W-Z,"
c/o Textile Bulletin.

WANTED

One Spinning Room Second Hand for coarse yarn mill. Job pays 80c per hour. Mill now operating on the six days, eight-hour shift basis. Job available on second shift. Applicant state qualifications, draft status, and send references.

Address "Second Shift,"
c/o Textile Bulletin.

WANTED

Card Room Second Hand for second shift in coarse yarn mill. Mill now operating 6 days per week. Guaranteed pay 80c per hour. Applicants please send references and state qualifications and draft status.

Address "Box XYZ,"
c/o Textile Bulletin.

FOR SALE

- Critical Production Equipment**
- 3-50 - spindle and 3-194 - spindle Hopdale Twisters, 4 1/2" rings, 5 1/2" gauge, Band Driven Spindles, Belt Driven.
 - 1-500-lb. Boiling and Bleaching Kier.
 - 1-28-stick Klauder Weldon Monel Lined Non-Hoist Skein Dyeing Machine, Motor Driven.
 - 1-28" Laundry Type, Belt Driven, Full Open Top Copper, Basket Extractor.
 - 1-Proctor 2-truck Yarn Dryer with Four Trucks.
 - 3-Copper Jacketed Tilting Type Motor Driven Color Mixing Kettles.
 - 1-Set of 23 Lincoln Dry Cans, Copper Covered, 23" Dia. by 88" Face, complete with Horizontal Frames, Gears, Bearings, etc.
 - 1-66" Voelker Double Bed Rotary Cloth Press.
 - 1-60" Tolhurst Hydro Extractor, Underneath Vertical Motor Drive, 3-phase, 60 cycles, 550 volts with starter.
 - 1-48" Tolhurst Copper Basket Belt Driven Self-Balancing Extractor.

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37 W. 42nd St. New York, N. Y.
Telephone: PEnnsylvania 6-8014

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are well liked.

Men like 'em. Women like 'em. They all like them. They are not bulky nor unwieldy and do not twist in the hands.

BATSON

Box 841 Greenville, S. C.

TEXTILE CHEMIST WANTED

Rayon yarn producer has opening for a Textile Chemist, preferably one with experience with sizing. Permanent position with good opportunities. State education, experience, age and salary expected. All replies will be treated as confidential.

Address "Chemist,"
c/o Textile Bulletin.

WANTED

Man with several years' experience in the complete manufacture of cotton sewing thread. Applicant should also have knowledge and experience as manager of employment and personnel, and be qualified to act as a purchasing agent for a cotton thread plant.

Address "Box S-T,"
c/o Textile Bulletin.

WANTED

Superintendent for Carded Yarn Mill familiar with manufacturing specialty items such as twine, seine twines, crochet cottons, etc. Must have fair knowledge both mechanical and electrical engineering, also dyeing and finishing.

Address "Box La-9,"
c/o Textile Bulletin.

POSITION WANTED—Young Card Room Overseer wants to make change. Has thorough knowledge of carding and good record for quality. I. C. S. graduate. Good general education. Can furnish references as to character and ability. Small family. Address "S. E. C.," c/o Textile Bulletin.

OVERSEER Available—Spinning, Twisting and Winding. Experienced tube twist and Sales Yarns. Can go anywhere. Address "Box 404," c/o Textile Bulletin.

POSITION WANTED — Married man, Class 4-F, now employed as assistant carder at night, wants day job. Can furnish references. Age 39. Can get things done. Address "O-C," c/o Textile Bulletin.

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WANTED

Overseer of Weaving between ages of 35 and 55. High school education preferred. Only those with experience in running large rooms and capable of commanding top salary need apply.

Write "N-T,"
c/o Textile Bulletin.

MAN with several years' experience as Supply Clerk wants to correspond with large mill needing man for this position. In best of health and draft exempt. Address "Supply Clerk," c/o Textile Bulletin.

MILL SUPERINTENDENT—Aggressive executive type, wants position in cotton or rayon mill, plain or fancy. Twelve years' experience as superintendent. Draft exempt. Best of references. Will come for interview. Address "Box 118," c/o Textile Bulletin.

SUPERINTENDENT, services available; above draft age; employed. Experienced on all classes cotton, yarns and plain Dobby and Jacquard weaving. References. Address "Box H-D," c/o Textile Bulletin.

WANTED

Card Grinder; small mill; day job. Write or apply

Herron Yarn Mills, Inc.
Mallory Ave.
Memphis, Tenn.

COMBED YARN MILLS — Overhauling, repairing, checking settings of any machineries from Bale Breaker to Spinning Frames, including Card Clothing, by competent man. Write "Box 524," c/o Textile Bulletin.

WANTED—By man with many years' experience as Roller Coverer, job as foreman of large mill shop. Draft exempt. Best of references and in best of health. Address "Roller Coverer," c/o Textile Bulletin.

WANTED—Position as carder or spinner. Age 45, married; 16 years' experience in large Southern mills. Best of references from present and past employers. Familiar with coarse, combed and colored yarns; also rayons. Address "G. R.," c/o Textile Bulletin.

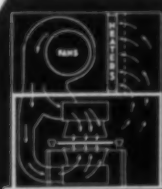
PROCTOR



Super-Speed DRYING SYSTEM

As Applied To
Single Run Tenters

- This Drying System, when applied to single run tenting machines for cotton and rayon piece goods, increases output in the finishing department and results in great economy.
- Flexibility of System permits control over drying speeds and conditions for a wide variety of fabrics and finishes.
- Air at high temperatures is impinged against both sides of the fabric and speeds as high as 170 yards a minute are being obtained in an 80-foot long tenter.
- In addition to high production, this System offers the benefits of uniformly maintaining high quality results and reducing maintenance, power, and steam costs.
- The Proctor Super-Speed System is rigidly and substantially constructed throughout and efficiently insulated against heat loss by special paneling.



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Prevent Mildew

ON YOUR RAYON HOSIERY

Add Laurel Mildant A to your lubricating or sizing formulas routinely. It will prevent mold formation on your rayon yarns and hosiery, with its consequent invisible tendering of the fibers, changes in dyeing properties and discoloration of hosiery fabrics.

Treat finished hosiery awaiting boarding with Laurel Mildant A... it will reduce mildew hazard.

Laurel Mildant A is a mill-tested safety measure that pays dividends in longer life of yarn and hosiery, more even dyeing and color. Send for sample order today.

Throw your scrap into the fight!

SOAPS OILS FINISHES

Laurel SOAP MANUFACTURING CO., INC.

WM. H. BERTOLET'S SONS

ESTABLISHED 1909

TIOGA, THOMPSON & ALMOND STS., PHILADELPHIA, PA.

WAREHOUSES: PATERSON, N. J., CHATTANOOGA, TENN., CHARLOTTE, N. C.

Care of Cotton Traverse Grinders Very Important

Cotton card traverse grinders, when running accurately and freely, can be very beneficial to the carding process, according to Jack Roy of B. S. Roy & Son Co., manufacturers of card grinders with Southern headquarters at Greenville, S. C.

With these machines as well as with any machines requiring lubrication, the thought to keep in mind is that *oil is cheaper than bearings.*

There can be no set rule for the cleaning and proper oiling of traverse grinders, as card room conditions vary considerably. However, it is imperative, says Jack Roy, that the following suggestions be carried out in part or in full to obtain the best possible results for each individual set-up:

1. Traverse grinders should be kept (covered) in substantial racks especially made for them when not in use.
2. The shell and traverse screw should be kept clean and should be covered with a light film of oil at all times. The traverse screw bearings (which can be reached through holes on each end of the shell) should be oiled regularly. A certain amount of emery which gets into the traverse screw and onto the shell while the grinder is in operation must be continually cleaned off, as emery and oil do not make a good bearing surface. Changing the felt cleaners and oilers on each side of the traverse wheel as soon as they become gritty or worn is an economical way of keeping the shell clean and oiled.
3. When new emery filleting is applied the shell should be wrapped at least a foot on each side of the traverse wheel to keep emery particles away from shell and screw. If the wheel is rolled with a flat board after covering, much of the loose emery will be thrown off, and the remainder evened up before the grinder is put back into operation.
4. As different make grinders require different parts, great care should be exercised in equipping each machine with the correct parts. Samples of worn parts should be submitted when they are available to a reputable traverse grinder manufacturer for replacement.
5. Should grinders be equipped with the new-type differential head, the oil in these sealed housings should be checked occasionally, changed after about every 1,000 hours of running and never allowed to get above the oil-level plug, as too much oil generates considerable heat which is detrimental to the proper operation of these differentials. When set up on a grinder they should be given all the end play possible (obtained by first locking one setscrew and then centering the motion before locking the other).

A continual checking, cleaning and oiling of traverse grinders should insure up to seven years of good service between repairs or replacements, making this type of machine an invaluable asset to a successful carding process.

Workers Increase Bond Buying

Employees at the seven American Viscose Corp. rayon-producing plants are currently subscribing for the purchase of war bonds at the rate of \$2,332,000 a year. This represents a good increase over last year's purchases, which totaled \$1,497,000. Approximately 91 per cent of all employees are currently participating in the war bond subscription program.

Report On Activities of American Viscose Corp. Is Given

Operations of American Viscose Corp. continued on a satisfactory basis during the first quarter of 1943 with net sales of \$25,143,362, an increase of 13 per cent over the similar period of 1942, William C. Appleton, president, stated at the annual stockholders' meeting held at Wilmington, Del., May 3.

Profits for the quarter, after reserving \$408,400 in respect to the Federal excess profits tax, post-war credit amounted to \$1,461,399, equivalent, after preferred dividends, to 67 cents per share of common stock outstanding. This compares with profits of \$1,309,475 after reserving \$271,000 in respect of the post-war credit, or 58 cents per share on the common stock in the first quarter of 1942.

Net profit, before such reservations and after preferred dividends, for the first quarter of 1943 amounted to \$1,869,799 or 91 cents per share on the common stock, as compared with \$1,580,475 or 74 cents per share on the common stock for the same period in 1942.

Dividends declared and paid during the three months ending March 31, 1943, were \$1.25 per share on the five per cent cumulative preferred stock and \$.50 per share on the common stock.

Mr. Appleton stated that the corporation recently was requested to submit information to the Price Adjustment Section of the War Department covering profits realized on war business in 1942 for the purpose of determining whether such profits should be renegotiated. From the information so far compiled, it does not appear that the profits on this business are in any sense excessive.

"Consequently," he said, "we do not believe that the result of the present investigation should effect the results of operations for the year 1942. The corporation's war business, however, is increasing rapidly. The number of pounds of rayon yarn and rayon staple fiber sold for war purposes during the first quarter of 1943 were about equal to the total quantity so sold during the year 1942.

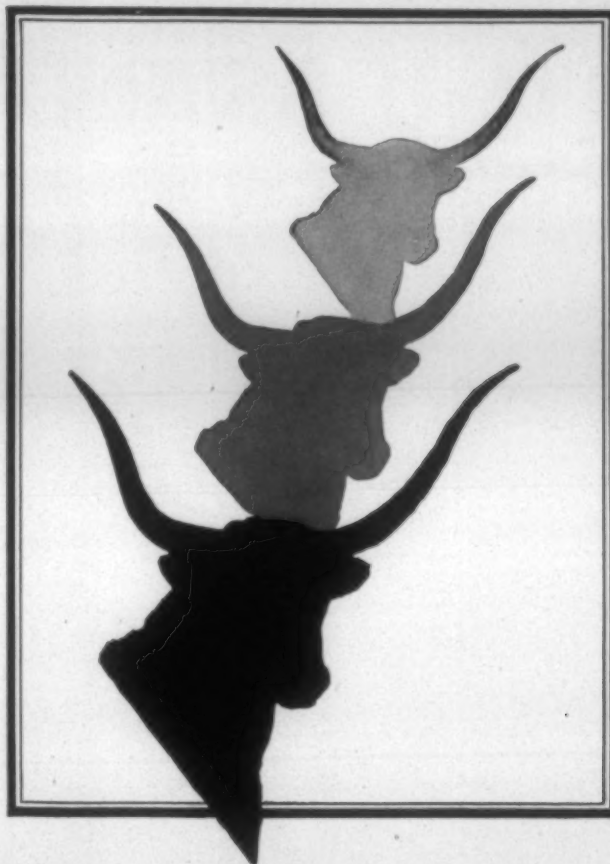
"As mentioned in the annual report," Mr. Appleton said, "the Office of Price Administration reviewed the corporation's manufacturing costs and operating results but so far we have not received any additional information concerning the matter."

"Our spinning machinery continues running 24 hours a day, seven days a week," Mr. Appleton reported, "though due to a shortage of employees at one of our viscose rayon yarn plants and a shortage of one of the chemicals used at our acetate plant, the total poundage produced is somewhat less than it could be at these two plants. Production, however, is no less than it has been for some time.

"In general, our supplies of raw materials and maintenance equipment are adequate and there is no present indication that this situation will change for the worse.

"Subject to unforeseen events, operations should continue favorably for the balance of 1943. Some increases in production later in the year are probable and are much needed by the Government, but these increases in most cases depend on the receipt of critical materials which are difficult to obtain.

"Our research and development laboratories are continuing to work on new and better products and methods with the major emphasis on military and general war needs. The results obtained have been most satisfactory."



STEADY increase in sales volume . . . matching consistent improvement in quality . . . has been the record of PENN-TAN Leather. Today it is the largest selling trade-marked Check Strap Hairless Leather on the market.

On the basis of this fact, we suggest that you specify PENN-TAN Leather on your next order for Check Straps. Let a test on your own looms prove to you why PENN-TAN Leather has achieved such an outstanding position of leadership.

If your regular supplier cannot furnish PENN-TAN Leather, write to us.

Shingle & Gibb Leather Co.
PHILADELPHIA

DRONSFIELD'S PATENT ATLAS BRAND EMERY FILLET



STOCKED BY
**THE PRINCIPAL MILL SUPPLY HOUSES
AND CARD MAKERS**

SCORES OF TEXTILE MILLS

Use These Brands of Ours

"CASCADE" for LOOMS

"SPIN TWIST"
for Spinners and Twisters

LESS SLIP
Not Affected by Machinery Oil

MORE PICKS PER MINUTE!

LOWER COST PER BOLT OR SKEIN!

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AKRON, OHIO

*Leather Belting Makers Since 1885
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Southern Representatives

RALPH GOSSETT & WM. J. MOORE
15 Augusta Street
Greenville, S. C.

The AKRON BELTING COMPANY
406 South Second Street
Memphis, Tennessee

Dr. Walter S. Landis Is Honored By Chemical Institute

Dr. Walter Savage Landis, vice-president of the American Cyanamid Co., has been awarded the gold medal of the American Institute of Chemists. He was presented with it at the annual meeting of the institute held May 15 at Chicago.

This medal, which is awarded annually for outstanding services to the science of chemistry, was presented to Dr. Landis not only in recognition of his contributions to chemical engineering and development work, largely in the field of nitrogen derivatives, but also for his services to the professional side of chemistry.



Dr. W. S. Landis

Among Dr. Landis' accomplishments is the development of a method for the fixation of atmospheric nitrogen by producing ammonia from cyanamid and oxidizing it to nitric acid; and he was concerned with the engineering of the first American plant for using this process, erected during World War I, when the nation was faced with "nitrogen starvation." He likewise designed the first portable hydrogen generator for inflating military balloons, largely used by the American forces.

At this time, he was also consultant for many industrial groups who were faced with problems in the production of munitions, but were without experience in this field.

His technical developments include processes for the production of hydrocyanic acid, cyanides, ferrocyanides, dicyandiamid, and urea from cyanamid.

Dr. Landis is a graduate of Lehigh University with the degree of metallurgical engineer (1902), M.S. (1906), and the honorary degree of Sc.D. (1922). During 1905 and 1906, he studied mineralogy and crystallography at Heidelberg, Germany, and spent some time at the Krugg Institute in the Technical High School at Aachen, in 1909. He later taught in the Department of Mineralogy and Metallurgy at Lehigh, resigning as associate professor in 1912 to join the American Cyanamid Co. as chief technologist. He has been actively associated with this company ever since. He established its first research laboratory in 1913, was made a director in 1922, and vice-president in 1923.

Many patents have been granted to Dr. Landis, and he is the author of numerous articles on chemical, financial and economic subjects. Throughout his career, he has spent much time and effort toward raising the professional standard of chemists.

Dr. Landis has been chairman of the New York Section of the American Chemical Society, chairman of the New York Section of the Electrochemical Society, president of the National Electrochemical Society, and a member of the Chemist Advisory Council. He is a member of the American Institute of Chemical Engineers, the American Institute of Mining and Metallurgical Engineers, and the American Institute of Chemists, president of the Chemists' Club, New York, a trustee of Lehigh University, and a member of the honorary scientific societies, Tau Beta Pi, Sigma Xi, and Epsilon Chi. He has been presented with the Chemical Industry Medal and the Perkins Medal.

Annual N. C. Safety Conference Meets May 20-21

The 14th annual state-wide industrial safety conference under the auspices of the North Carolina Industrial Commission will be held May 20-21 at the Hotel Charlotte, Charlotte.

The textile section of the conference will convene May 20 at 2:30 p. m. under the chairmanship of M. Weldon Rogers, general superintendent of Chadwick-Hoskins Co., Charlotte.

Talks to be presented include "Occupational Disease Problems," E. Ward Thompson, American Mutual Insurance Co., Atlanta, Ga.; "Accident Records Tell the Story," C. J. Hyslop, safety director of Chatham Mfg. Co., Elkin; and "Three Dimensional Seeing," E. W. Winkler, North Carolina State College, Raleigh.

A panel discussion, led by S. F. Kimball, safety engineer for Liberty Mutual Insurance Co. of Charlotte, will take up the following subjects:

1. Handling Objects—the Cause Leader.
2. What Records Should Be Kept on Minor Injuries?
3. How Can We Impress the Employee with the Importance of His Job?
4. Should the Mill Safety Program Include Home Accident Prevention?

Participants in the panel discussion will be B. C. Hall, Jr., safety director, Hanes Hosiery Mills, Winston-Salem; H. E. Williams, safety engineer, Marshall Field & Co., Spray; David A. Rae, safety engineer, Eagle Indemnity Co., Charlotte, and Marshall Dilling, A. M. Smyre Mfg. Co., Ranlo.

New War Training Course in Textiles

E. W. Ruggles, director of the engineering, science and management war training courses conducted at North Carolina State College, Raleigh, under the supervision of the United States Office of Education, has announced that the eighth course in fabric testing and inspection will open on June 7 and run for 12 weeks. All expenses except board, room rent and books are paid by the Federal Government.

Students who enroll in this course will be taught elementary textile design, fabric analysis, fabric calculations, the care and operation of fabric testing equipment, physical and chemical tests for the identification of textile fibers, as well as a study of yarn and fabric defects.

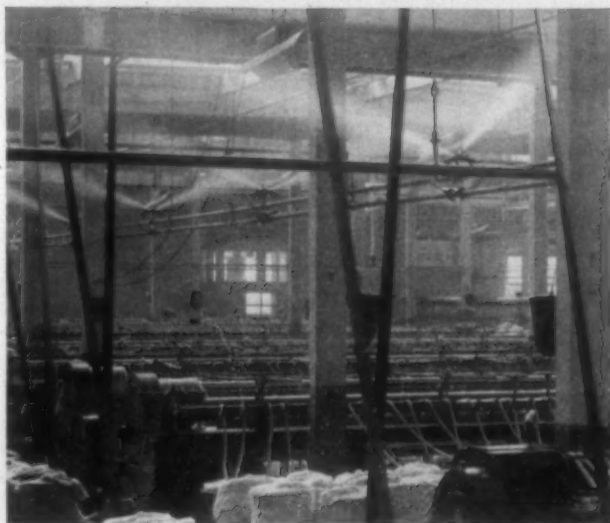
Enrollment in the course is limited to 22, so applications should be sent in as soon as possible.

Napped Fabrics Committee Named

Named recently to the Napped Fabrics Industry Advisory Committee of the War Production Board were Robert Amory, Nashua Mfg. Co., Cordova, Ala.; F. B. Bradley, Eagle & Phenix Mills, Columbus, Ga.; Carl R. Harris, Erwin Cotton Mills, Durham, N. C.; Harvey Moore, Brown Mfg. Co., Concord, N. C.; H. G. Mortland, Cannon Mills Co., New York; Charles B. Nichols, Appleton Co., Anderson, S. C.; Theodore Riegel, Trion (Ga.) Co.; L. D. Rivers, Wade Mfg. Co., Wadesboro, N. C.; Donald Tansill, Pepperell Mfg. Co., Lindale, Ga.; and Frank Williams, Roanoke Mills Co., Roanoke Rapids, N. C. George E. Ward is the Government presiding officer.



AIR CONTROL Eliminates PRODUCTION Casualties, too!



Control of the air in a textile mill, here at home, by means of adequate humidification, accurately regulated humidification, compensation for increased heat generation and induced ventilation, is just as vital as clearing up the sky above New Guinea or Tunisia. Static electricity, dust, fly and heat can sabotage production during a time when full scale operation is needed. Only with adequate, carefully controlled humidification can machines maintain their full rated output.

Is your humidification system adequate? Is your equipment antiquated and improperly regulated? Do you have sufficient units and control stations to win *control of the air* in your mill? Have you checked these factors recently? A few, seemingly unimportant changes and replacements may put your mill *back in the thick of the fight*. American Moistening Co., Providence, R. I. Atlanta . . Boston . . Charlotte.



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Cotton Goods Market

NEW YORK.—Recent activities in the Worth Street market have been confined generally to the usual vigorous search for goods; with no definite movement of goods evident. Occasionally buyers are able to get hold of small lots where mills find themselves in a position to dispose of cloth over and above their contracted orders.

The feeling persists that until the Army completes its present purchasing program, mills have completed their conversion to the simplified constructions, and the general situation shows more stability, any appreciable change in the movement of gray goods is unlikely.

Nationwide increases in crops of all kinds will make necessary a tremendous quantity of additional yardage of fabrics to pack and ship these agricultural products, according to well-informed sources. Increased imports of burlap in recent weeks and the prospects for continued gains of such receipts from abroad, however, will not be sufficient to fill the demand, it is added, with the brunt of the burden still having to be filled by cotton textile bagging. Although the recent successes in North Africa may tend to bring about some gains in the quantity of burlap and bag imports, provided the shipping lanes are freed of enemy submarines, such prospects are not too dependable, it is reminded.

Selling houses continue to comment on the effects of L-99, with most inclined to feel that the yardage increases expected are going to fall short of Government estimates.

Federal control over the operations of cotton textile mills is steadily expanding and further moves in this direction can be expected as the war progresses, is the view in many sections of the cotton textile market. Restrictions on the sale of 39-inch, 80x80, 4.00 yard print cloth, except on a rating of AA-5 or better as ordered by the WPB, is cited as another step in an over-all program to insure the production of essential civilian as well as military fabrics for the duration, under Government supervision.

This recent ruling only tends to emphasize the importance of Limitation Order L-99, in that it not only controls the production of mills, but also covers the distribution of their products. Ostensibly promulgated to increase the production of cotton textile mills by the simplification of constructions, the ruling serves a dual purpose by the assignment of priority restrictions to specific classes of cotton textiles by limiting their sales to special purposes and uses, it is frequently reminded.

For many months, the opinion has been expressed in the market that the Government is leaning in this direction, and with each successive step has tightened its control over cotton mills operations.

J. P. STEVENS & CO., Inc.

fabrics for diversified uses

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EMPIRE STATE BUILDING

NEW YORK

Cotton Yarns Market

PHILADELPHIA.—Buyers of yarn for civilian purposes seem to have become used to accepting their yarn replacements in comparatively small lots, and requests for the average quantity intended to cover buyers beyond the time when present contracts are completed is reported to be approximately enough to maintain buyers' average for a few weeks longer.

For longer coverage, it is brought out, relatively small orders are placed with several sources. Civilian customers in many cases should now be covered ahead through the next quarter. For the majority, this is impossible. Some distributors express surprise that civilian weavers and knitters have been able, so far, to maintain a fairly adequate production of goods, including some kinds that are not considered essential.

The recent ruling issued by OPA whereby combed sale yarns for war uses command a higher ceiling price range than those available for civilian consumption is considered by yarn interests as intended to draft into military uses all the combed yarn supplies not already so consumed. It is generally understood, however, that combed yarn spinners and market interests intend, as far as possible, to continue to furnish their regular civilian accounts with all supplies that may be available.

As viewed in the yarns market, the recent statement issued by OPA as regards cotton yarns and goods, which, in effect, is thought here to underestimate the importance and influence of civilian requirements in wartime, set forth that any supplies of yarns and goods for non-military purposes must in the future be shown conclusively to be absolutely essential.

The sale carded and combed yarn spinners and distributors are understood to have no immediate plans for reopening with Washington officials the subject of affording civilian consumers a better chance of getting enough yarn to enable them to stay in business.

The sale yarn interests already are considered to have done all they could to induce OPA to grant relief from alleged "squeezes" in the yarn price ceiling set-up. After long delay, OPA responded with a somewhat moderate price ceiling rise for combed yarns wanted in war work, but at the same time it was stated that yarns for civilian use would be granted consideration subject to a number of qualifications.

Attention Mill Men!


Roofs waterproofed and maintained at low cost. Asphalt-Asbestos Roof Coatings and Plastic Roofing Cements a specialty for more than 20 years. Write or wire us for information and prices.

CAROLINA PAINT & VARNISH CO.

Division of
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Newton

North Carolina



PRODUCTION SPEEDS DEPEND ON THEM

FLAWLESS HEDDLES REEDS and HEDDLE FRAMES

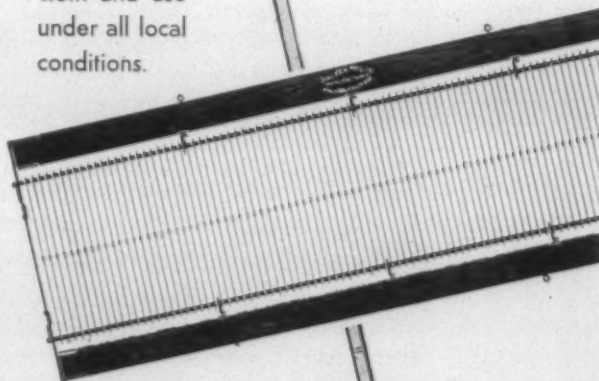


—for weaving Cotton,
Spun Rayon, Nylon
and Acetates.

WALKER LOOM HARNESS

has been a
quality product
since 1875

Designed for
every type of
cloth and use
under all local
conditions.



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PHILADELPHIA, PA.

R. T. OSTEEN, Southern Manager
11 Perry Road . Greenville, S. C.

Greenville Textile Supply Co.
Greenville, S. C.

Odell Mill Supply Co.
Greensboro, N. C.

Quern Is Becco Southern Manager

D. Stewart Quern of Charlotte has been made Southern manager of Becco Sales Corp. of Buffalo, N. Y., the appointment becoming effective on May 12. He will continue to make his headquarters in Charlotte where the company maintains warehouse stocks.



Stewart Quern

Mr. Quern has represented Becco in the South for a number of years and is widely known in the chemical field. He is past secretary of the Piedmont Section of the A. A. T. C. C.

As Southern manager, Mr. Quern occupies a newly-created position which company officials felt was justified because of the rapid expansion of its business in this section.

Cotton supply parachutes are being used to serve the nation's fighters in lonely outposts and advanced positions to deliver food, arms and ammunition.

Kennedy Is Kendall Purchasing Agent

George E. Kennedy has been appointed, effective June 15, as purchasing agent for the Kendall Mills Division of the Kendall Co., Paw Creek, N. C., succeeding Maurice L. Clemence.

Mr. Kennedy has been associated with Kendall Mills in the staff position in charge of priorities, and as a result of this experience is well acquainted with many of the procurement problems involved in the purchase of materials for the division.

George R. Murphy, Jr., With Morton Chemical

George R. Murphy, Jr., has accepted a position with Morton Chemical Co. of Greensboro, N. C., as a technician in the firm's North Carolina territory.

Mr. Murphy has had experience not only in the practical application of chemicals but also in the manufacturing end of textiles. He studied textile engineering at North Carolina State College, going directly from college to

Southern Dyestuff Corp., Charlotte, N. C., in 1937. After spending two years with this company he then went to Asheville (N. C.) Cotton Mills, working there two years and gaining practical experience in all departments. He then returned to Southern Dyestuff Corp., where he was employed for the past two years as technician and salesman.

Lieut. Robert Jaegers Awarded Air Medal

A. C. Jaegers of Rutherfordton, N. C., Southern representative of Aktivin Corp., New York, was recently informed that his son, Lieutenant Robert A. Jaegers, has been awarded the Air Medal for active anti-submarine duty.

The citation listed Lieutenant Jaegers among others and was signed by Brig.-Gen. Westside L. Larson. It read as follows:

"For extraordinary achievements while participating in more than 200 hours of anti-submarine patrol. As members of combat crews these individuals displayed outstanding initiative, resourcefulness, and a high degree of skill under trying conditions such as restricted visibility, low ceilings and icing conditions encountered on the large number of flights necessary to perform this hazardous patrol of great responsibility. Possibility of encountering enemy ships of fighter type or anti-aircraft fire added to the hazards of these missions. The outstanding of these individuals reflects the highest credit on the military forces of the United States."

Jacobs Mfg. Corp. Gets Hickory Wood Supply

E. H. Jacobs Mfg. Corp. of Charlotte, N. C., has purchased cutting rights on 4,500 acres of hickory wood located near Marion, N. C. Hickory is used for the manufacture of the company's picker sticks and the cutting rights were secured in order to maintain a constant source of supply of this timber.

Cotton in its original form as cloth or in plastic parts is used in all implements and vehicles of war. An Army truck needs 40 pounds of cotton, not including the tarpaulin.

— for the **TEXTILE INDUSTRY**



Bahnson HUMIDUCT

The Bahnson Humiduct combined with the Westinghouse Precipitron gives positive lateral circulation of electrically cleaned air with controlled humidity.

The Bahnson Humiduct principle can supply conditioned air in any form—hot, cold, humid, dry, cleaned—or in any combination—automatically controlled.

Bahnson Engineers, experienced in textiles, are available for servicing post war planning—or priority installations.

Bahnson System

AIR CONDITIONING ENGINEERS

THE BAHNSON CO. WINSTON-SALEM, N. C.



Harrison Hightower In Line For A. C. M. A. Presidency

As a result of his election as second vice-president of the American Cotton Manufacturers Association at the group's recent annual meeting in Atlanta, Ga., W. Harrison Hightower, president of Thomaston (Ga.) Cotton Mills, is now in line for the presidency of the organization during the 1945-46 term.



Harrison Hightower

At next year's convention voting, James A. Chapman, president of Inman (S. C.) Mills and current first vice-president of the association, is expected to be elevated to the presidency, and Hightower to the first vice-presidency. A year following this, Hightower is expected to be elevated to the presidency.

Cotton Textile Orders Amended By WPB

Three cotton textile orders assigning A-2 ratings for procurement of certain types of cotton fabrics were amended May 14 by the War Production Board to bring them in line with Order L-99.

The orders—M-107 (cotton textiles for bags), M-134 (cotton textiles for industrial and surgical products), and M-218 (cotton textiles for agricultural and food processing uses)—define the types of fabrics which may be procured for certain purposes through use of the rating.

Since L-99, as amended, permits the manufacture of only certain types of cotton constructions, it was necessary that the three orders covered by this action conform with L-99.

Viscose Workers Paid For Work On Boards

The American Viscose Corp. is currently allowing a maximum of 40 hours per week per plant in payment for the services of employees serving on local draft boards and/or local rationing boards. This is to be paid to employees for time lost when attending official meetings and carrying out their duties in connection with the war effort.

W. N. Banks Heads Institute Directors

The Cotton-Textile Institute has announced that William N. Banks of Grantville, Ga., has been elected chairman of the board of directors, succeeding Goldthwaite H. Dorr, who resigned some time ago to become special assistant to the Secretary of War and representative of the War Department on the WMC.

Mr. Banks is a former president of the American Cotton Manufacturers Association. He was educated at Emory College and at the age of 25 was elected president of Grantville Hosiery Mills. He is also president of Habersham Mills, McIntosh Mills, Grantville Mills, Moreland Knitting Mills and Rome Compress Co., all located in Georgia. He has been actively identified with the institute since its founding.

PROTECTION "PLUS" in a WARTIME PACKAGE



Two factors control wartime "package engineering". One is adequate *protection*—for long transit, for rough handling by overburdened carriers. The other is *light weight*—to reduce bulk and save valuable cargo space, to conserve packing materials.

Producers are turning to Stanley Steel Strapping reinforcement because it provides the required

extra strength, even with lighter containers, for shipping all types of goods.

The Stanley Steel Strapping system includes tools, reels, and accessories for any purpose,—everything you need for fast, dependable application.

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THE STANLEY WORKS

STEEL STRAPPING DIVISION . . . NEW BRITAIN, CONN.

PROMPT DELIVERIES
to Plants engaged in
War Production

PENICK & FORD, LTD.
INCORPORATED

CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS
NEW YORK, N. Y. - - - CEDAR RAPIDS, IOWA
SOUTHERN OFFICES: ATLANTA, GA. - - - SPARTANBURG, S. C.

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Douglas "S" Starch
is a special high fluidity
Thin Boiling type Starch
used by numerous finish-
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could reduce our finish-
ing costs by using it
Jim*

**Sterling
Ring Travelers**

ATTENTION

Ring Travelers are small and often are "taken for granted." Being critical metals, strict attention to the condition of the rings on which they run is necessary for better results. A different Traveler may help.

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Box 443, Spartanburg, S. C.
Southwest Supply Co.
Box 236, Itasca, Texas

STERLING RING TRAVELER CO.
FALL RIVER, MASS.

Southern Mills Receive "E" Awards For Production Records

(Continued from Page 28)

duction stopped for two hours, long enough to permit workers to witness the ceremony, which began at 2:45 p. m.

Cone mills cited for honor were Proximity Mfg. Co., Greensboro—including Proximity Cotton Mills, Proximity Print Works and White Oak Cotton Mills—and Revolution Cotton Mills.

Presentation of the "E" pennants was made by Colonel Robert T. Stevens, United States Army, chief of clothing and textile branch of the procurement division of the Office of the Quartermaster General. Colonel Stevens praised men and women of the plants for "exceedingly high standards in co-operation and achievements," explaining that both quality and quantity of production in the light of available facilities are prime factors in selecting recipients for the awards. He declared the recognition came as result of sound planning by management and hard work and loyalty of the men and women. "It is the kind of teamwork on the home front our boys are showing on the war front," he added.

Colonel Stevens made the presentation in behalf of Under Secretary of War Robert P. Patterson and Under Secretary of Navy James V. Forrestal. The award was received by Herman Cone, president of the Cone Mills, who replied that the entire organization felt a sense of pride and "the responsibility not only to maintain production standards of the past but to improve upon them."

Lieutenant Huger S. King, former mayor of Greensboro and now with the United States Navy in Charleston, S. C., presented the "E" emblems to the following four representatives of the employees: John H. Murphy, Proximity Mills; Jeffie L. Oakley, Revolution; Columbus F. Brooks, Proximity Print Works, and William F. Loman, White Oak. King read a citation "for meritorious and distinguished service to country in time of need." Loman, speaking for the men and women who man the machines, pledged "a rededication of efforts to ever-increasing efficiency of production."

The Rev. H. R. Starling delivered the invocation. Major L. P. McLendon presided as master of ceremonies.

The Greensboro home guard, in full regalia, was present for raising of the colors and hoisting of the "E" pennants. An Army band played "The Star Spangled Banner," "Stars and Stripes Forever" and "America" as a final number in which the entire audience joined.

Frank Ix & Sons

Governor Colgate Darden, Jr., of Virginia was among the speakers at "E" presentation ceremonies held May 15 at the Charlottesville, Va., plant of Frank Ix & Sons.

Frank J. Ix, Sr., who founded the business in 1919 and who is still its president and active head, was the guest of honor and accepted the "E" burgee. A committee of six employees, who have been with the Charlottesville plant since it was started 15 years ago, received the "E" lapel pins on behalf of all the employees.

The employees' committee consisted of Ezra Harvey, weaver; William Harlow, loomfixer; Pearl Dill Walton, smash hand; John Rogers, loomfixer, and James Toms and Rosa Baltimore Bibb, both weavers. Mr. Harvey made the speech of acceptance representing the employees.

Raise Ceiling Prices On Combed Yarns For Military Procurement

To enable the military services to obtain full procurement of fine cotton goods, the Office of Price Administration increased May 3 by approximately six per cent the ceiling prices for sales of combed cotton yarn for military procurement.

No increases are provided for sales of yarn for civilian uses because by and large such price changes would affect the cost of living and would be contrary to the President's "hold-the-line" order which has made it imperative that "price increases on civilian goods be scrutinized with utmost care," OPA said.

The new cents-per-pound prices, applying to single and plied combed yarns in numbers from 8s through 50s when sold for military purposes, are provided in Amendment No. 10 to Revised Price Schedule No. 7—Combed Cotton Yarns and the Processing Thereof—and became effective May 5, 1943.

Among the more commonly used numbers for military purposes, the price for 24s plied yarn on sales to war procurement agencies is now set at 54½ cents a pound compared with 51 cents for civilian sales; 36s plied 61¾ cents as against 58½ cents; 50s singles at 67¼ cents against 67 cents; and 50s plied at 73¼ cents against 73 cents.

OBITUARY

MRS. SCOTT RUSSELL

Mrs. Scott Russell, wife of Scott Russell, president of Bibb Mfg. Co., Macon, Ga., died May 12 at the family home.

The former Miss Emma Sutherland, she was born in Sanford, Fla., and had lived in Macon for 20 years.

In addition to her husband she is survived by two sons, James S. Russell, aviation student at Burlington, Vt., and Ben S. Russell of Camp Wheeler, Ga.; her father, D. T. Sutherland, Daytona Beach, Fla., and two sisters, Mrs. D. R. Bryan of Bainbridge, Ga., and Mrs. W. B. Garrison of Thomasville, Ga.

WILLARD F. VAN RIPER

Willard Frederick Van Riper, sales manager of the dye-stuffs division of the organic chemicals department, E. I. du Pont de Nemours & Co., Inc., died recently in Freeport, L. I., N. Y. He is survived by wife and a sister.

JOHN PERRY SUTTON

John Perry Sutton, 37, for the past year personnel director at Woodside Cotton Mills Co., Greenville, S. C., died recently following an illness of two months. He is survived by his wife, Mrs. Lillian Hughey Sutton, and one son, Johnny Sutton.

JAMES C. FAIRES

James F. Faires, 57, superintendent of Nelson Cotton Mill Co. at Whitnel, N. C., died recently. Funeral services and burial took place at Clover, S. C. Survivors include his widow, six daughters and a son.

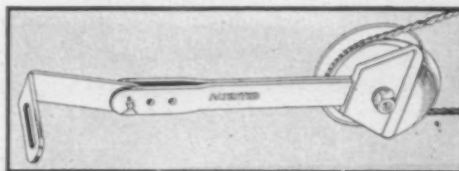
750,000
SPINDLES
CAN'T BE WRONG

MEADOWS Ball-Bearing TENSION PULLEYS are now helping over 750,000 spindles meet Government specifications. Among our larger installations are those at:

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AVONDALE MILLS
HATHAWAY MFG. CO.
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MEADOWS Ball-Bearing TENSION PULLEYS eliminate band-slippage and slack yarn, as well as reduce damp weather, dry weather and "Monday Morning" band trouble, and assure uniform twist and spindle-speed at all times. Lubrication necessary only once every 5000 hours. No doffing of frames necessary for installation.

MEADOWS

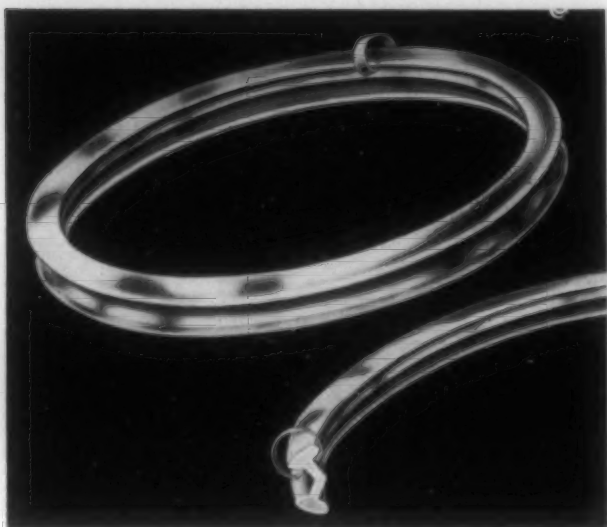


BALL BEARING TENSION PULLEYS

For complete information on how
MEADOWS Ball-Bearing TENSION PULLEYS
can help you, write—

MEADOWS MANUFACTURING CO.

ATLANTA, GEORGIA



RAGAN RINGS not only increase spindle efficiency but also help to improve yarn quality. These are definite reasons why . . . ask for the whole story and samples

Ask for the Whole Story and Samples

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Box 174, Station A

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Our Service Backed by Years of Experience

—enables us to give you the Best in the

MANUFACTURE OF

STEEL ROLLS
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FLY FRAMES
SPINNING FRAMES
TWISTERS
SPOOLERS

MOVING OF

ALL KINDS OF TEXTILE
MACHINERY

SOUTHERN SPINDLE & FLYER CO., Inc.

*We Manufacture,
Overhaul and Repair Cotton Mill Machinery"*

CHARLOTTE, N. C.

W. H. MONTY, Pres. and Treas.

Aridye Corp. Announces New Flameproof Camouflage Colors

CFP colors for flameproof camouflage netting have been developed by Aridye Corp. to meet all the requirements of the Army Engineer Corps for flameproofed camouflage shrimp netting. These special flameproof colors are available in two shades, CFP Sand No. 3 and CFP Olive Drab No. 9.

According to the manufacturer, these colors meet the following specifications for coloring and flameproofing cotton camouflage shrimp nets:

U. S. Army Specification

No. T-1669—Corps of Engineers Tentative Specification for Nets, Camouflage, Cotton, Shrimp. This includes provisions from the following specifications:

No. T-1212—Corps of Engineers Tentative Specification for Fabric, Impregnated Camouflage.

No. T-1213—Corps of Engineers Tentative Specification for Camouflage Colors.

No. 100-12—Method of Test for Infra-red.

Federal Specification

No. CCC-T-191—Textile: General Specifications—Test Methods.

Extensive comparative tests have proved that the best results are obtained when the colors are applied in an all solvent solution. However, equally successful results can be obtained with a water-in-oil emulsion if the available drying equipment provides some means of compensating for shrinkage of the fabric. Removal of solvent vapors is necessary with any mixture containing even a small percentage of solvent.

Aridye CFP colors may be applied in a variety of ways, depending on the equipment available. In general, what is desired is a means of impregnating the fabric and removing the excess liquor, followed by a drying operation. In view of the construction of these fabrics, precautions should be taken to avoid distortion of the net construction during processing.

The manufacturer states that these CFP colors are concentrates and contain the proper blend of pigments, binders and flameproofing materials. To prepare a mix, just dilute with solvent and add the necessary amount of a mildew-proofing agent.

Textile Consulting Firm Established

Werner Textile Consultants has been established with offices at 60 East 42nd Street, New York City. The company is headed by Herbert L. Werner, formerly vice-president of Gherzi Textile Development Co., Zurich, Switzerland, and more recently president of Textile Industry Research, Inc., New York.

The new company will specialize in improving working methods and operating conditions in U. S. spinning and weaving mills, similar to the work which has been carried out by Mr. Werner for the past 15 years all over the world, and during the last three years in a number of well-known mills in the U. S. A.

On the strength of this varied experience and knowledge it is intended to especially emphasize controlled and preventative machine maintenance, the elimination of production bottlenecks in the preparatory departments, as well as the possible improvement of quality—all problems which are of particular interest under war-time conditions.

Thomas Nelson Heads National Council Of Textile School Deans

The spring conference of the deans of the 11 textile schools was concluded recently, after spending three days at Princeton, N. J., and New York City.

In order to co-operate more effectively in extending the usefulness of the textile schools there was created the National Council of Textile School Deans. Dean Thomas Nelson of North Carolina State College Textile School at Raleigh and Charles H. Eames, president of Lowell Textile Institute, were unanimously elected president and vice-president, respectively.

Dominating the discussions was the problem arising out of the loss of so many students to the armed services. Students of textile engineering, unlike those enrolled in many other engineering courses, are not as yet qualified to apply for deferment. As a result many textile school students have been required to report at induction centers despite the fact they would have graduated and received their degree if they had been allowed to remain a few months longer, and indeed, in some instances, a few weeks longer.

At Princeton the deans visited several departments of Princeton University, with discussions led by Miss Helen Baker, assistant director of the industrial relations section of the University, Kenneth M. Condit, dean of the school of engineering, and Hugh S. Taylor, chairman of the chemistry department. Topics covered during the discussion periods included personnel problems, industrial and labor relations, absenteeism, engineering of today and of the future, textile chemistry and fibers, research and the textile industries, and the future of the textile industries in terms of scientific and engineering advancements.

Present were E. W. Camp, dean, textile engineering department, Alabama Polytechnic Institute, Auburn; E. V. Carroll, dean, Bradford-Durfee Textile School, Fall River, Mass.; Dr. W. H. Dooley, principal, Straubenmuller Textile High School, New York City; Charles H. Eames, president, Lowell Textile Institute, Lowell, Mass.; Robert K. Eaton, acting dean, Clemson College Textile School, Clemson, S. C.; W. D. Fales, dean, textile school, Rhode Island School of Design, Providence, R. I.; Dr. F. M. Feiker, dean, school of engineering, George Washington University, Washington, D. C.; Dr. E. W. France, dean emeritus, Philadelphia Textile Institute; M. Earl Heard, dean, Philadelphia Textile Institute; Franklin W. Hobbs, chairman board of directors, Textile Foundation; C. A. Jones, dean, A. French Textile School, Georgia Institute of Technology, Atlanta; Dr. Thomas Nelson, dean, North Carolina State College Textile School, Raleigh; L. E. Parsons, acting dean, textile engineering department, Texas Technological College, Lubbock; Edward T. Pickard, secretary and assistant treasurer, Textile Foundation; and George Walker, dean, New Bedford Textile School, New Bedford, Mass.

John O. Lee and Allen C. Campfield of Swannanoa, N. C., were recently awarded a patent on a pattern mechanism for jacquard looms in which retractable pins feed the pattern, and these pins are automatically withdrawn to present the pattern card being read against a flat surface, and then the pins again raise the pattern from contact with the feeding cylinder together with cam action for shedding the pattern cards from the pins.

TEXTILES' VITAL ROLE IN WINNING THE WAR (NO. 4 OF A SERIES)



Uncle Sam has put in a call for millions of yards of textiles to meet the specialized needs of our armed forces. America's mills have answered that call! Those millions of yards are being turned out—right on schedule. Undreamed of production standards are being set—maintained—and bettered.

The Burkart-Schier Chemical Company, pioneer in the development and manufacture of wet processing agents for yarns and piece goods, is playing an active part in this vital work. For Burkart-Schier chemists and textile chemicals are working right along with America's mills, helping to scour, mercerize, bleach, dye, and finish all sorts of yarns and fabrics—making those fabrics fit to fight!



BURKART-SCHIER CHEMICAL CO.

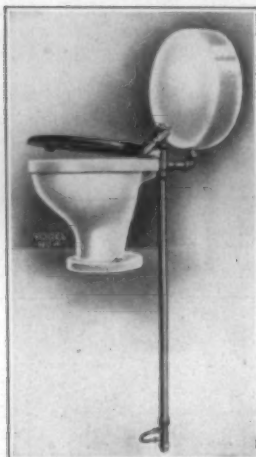
Manufacturing Chemists for the Textile Industry

CHATTANOOGA, TENNESSEE

PENETRANTS • DETERGENTS • SOFTENERS • REPELLENTS • FINISHES

For All Plants

LARGE OR SMALL



VOGEL NUMBER 4—Vitreous china bowl with top supply, painted white enameled drum type pressure tank, reinforced hardwood seat, union ell flush connection, lead waste connection, supply and flush valves assembled with 3 ft. 2 in. genuine wrought iron valve rod and casing.

This fixture can be furnished with Vacuum Breaker and Ball Check Waste.

Regardless of the size of your plant, Toilet Rooms which require constant repair and time out for adjustment, will rob you of valuable man-hours and may constitute a menace to the health of your employees.

Vogel Products are proving their ability to withstand the use and abuse of today's 24-hour working schedule. In textile mills, shipyards, chemical and high explosive plants, steel mills and many other places throughout the Nation, Vogel Products are meeting all the requirements of our all-out War Effort.

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WILMINGTON, DELAWARE

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First Salvage Awards Are Presented By American Viscose

Twenty-seven employees of the American Viscose Corp. were presented with the company's salvage awarded medal, named in honor of Sir Samuel Salvage, past president and known as the founder and dean of the United States rayon industry, at a luncheon held recently at the Vanderbilt Hotel, New York.

The Salvage awards, established last year, are to be made annually and are given in recognition of outstanding action or achievement beyond the usual performance of duty. This year's presentations were the first to be made and will be known as the 1942 awards.

One of the most interesting awards made by any company, the Salvage awards may be given for many reasons—an important discovery, an outstanding development, a suggestion leading to an important improvement, or for perseverance in carrying a difficult assignment through to completion against all obstacles, even over a long period of time. The award may also be given for outstanding performance of routine work, or for unusual service, helpfulness to associates, loyalty and devotion to the corporation's welfare.

In addition to the 27 employees now actively in service in the company's plants and offices, honorary medals will be presented to Sir Samuel Salvage, now a member of the board of directors, and to Harry C. Neren, formerly manager of the company's Roanoke plant, then general plant manager, and now a director.

Among recipients of the 1942 awards are:

James Bennett, plant engineer, Front Royal, Va.; for engineering at the Front Royal plant, including installation of new processes, expansions and changes, in which his skill, ingenuity and perseverance made it possible to meet urgent requirements of the war program as well as of civilian supply in the war economy.

Henry A. Dunn, engineering foreman, Parkersburg, W. Va.; for long and constructive service to the corporation in pipefitting work, in which he has been willing, co-operative, industrious, far-sighted and thoughtful for the corporation's interest and that of his fellow employees.

Charles E. Hendrixson, Jr., manufacturing superintendent, Nitro, W. Va.; for persistence and untiring effort in developing a carton container for staple fiber bales, which not only effected a saving in cost, but anticipated the burlap shortage caused by the war.

Bessie Mills, finishing department clerk, Roanoke, Va.; for the Sunshine Club which has been the result mainly of her efforts, and through which employees of the Roanoke plant have brought cheer and aid to less fortunate persons.

George S. Lux, viscose department supervisor, Front Royal, Va.; for work in organizing and operating the viscose department at the Front Royal plant, including the expansion program for war material.

R. N. Sibold, production control, Roanoke, Va.; for the first aid and life saving crew at the Roanoke plant, in which he has served as captain for over seven years, and which, under his energetic and enthusiastic leadership, has rendered valuable assistance to the corporation and many of its employees.

N. S. Welton, staple department supervisor, Nitro, W. Va.; for an improved method of cutting staple fiber resulting from keen observation and application beyond the normal requirements of his position.

Steel Heddle Mfg. Co. Equips Largest South African Plant

Although kept at full capacity in supplying the textile mills working on war production in this country and Canada, nevertheless, the Steel Heddle Mfg. Co., with its large plants in this country and Canada, was called upon to completely supply the harness equipment for the Usines Textiles de Leopoldville, Leopoldville, Belgian Congo, South Africa.

It is said that the Congo is the only country in tropical Africa which has a complete textile industry, starting with the weaving of the cotton to the completion of the dyeing, preparation and printing of the materials.

This plant is said to be running on heavy materials for the construction of tents, great quantities of khaki materials, gauze and bandage materials, absorbent cotton, etc., and with the knowledge and experience of the experts at Steel Heddle Mfg. Co. of the manufacture of these products, it was possible for the African plant to get into immediate production with the use of the harness best suited for each individual fiber to be woven.

Before the United States entered the war, the Steel Heddle Mfg. Co., through its research engineers, was experimenting and perfecting equipment best suited to meet the



Interior view of the loom shed of Usines Textiles.

needs of mills specializing on the fabrics to be woven for war work and, as a result, complete loom harness equipments, as made today by the Steel Heddle Mfg. Co., possess real war-time needs—capable of meeting all present-day production requirements.

The complete order for the equipping of this mill, as far as the loom harness was concerned, was given to the Steel Heddle Mfg. Co., Philadelphia, Pa.

A woven fabric of steel wool or other metallic fibers, that has some of the springiness of felt, is the invention on which Miles A. Stybr of Springfield, Ohio, has been granted Patent 2,316,818. Instead of twisting the metal filaments into hard, cagle-like yarn as in previous inventions, Mr. Stybr leaves them untwisted, merely weaving the flattened strands into a coarse, basket-like texture.



QUERY: What is DRAX?

FACT: DRAX is a stable, aqueous emulsion of wax, aluminum salts and emulsifying agents.

QUERY: Why has it such high water-repellency and stain-resistance?

FACT: Because of a special method developed by S. C. Johnson & Son of making the colloidal particles extremely small and uniform in size. Much better impregnation of the fibres is the result. Application is uniform throughout the entire run of cloth.

QUERY: Is it easy to apply?

FACT: Yes. Simply dilute DRAX with ordinary water. Apply in a single bath, in any available type of padder. Temperatures may vary from room temperature to boiling. DRAX may be used on vat or sulphur-dyed textiles. Its acidity (pH 3.5 to 5) requires a minimum of control.

QUERY: DRAX users?

FACT: Textile manufacturers making army and navy uniform cloth, material for work clothes... as well as fabrics of all kinds for civilian life.

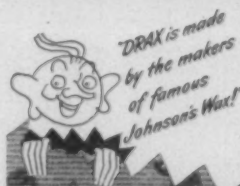
QUERY: What about MILDEW?

FACT: DRAX formula 1860PMA contains sufficient quantity of phenyl mercuric acetate to provide a mildew-proofing which meets the microbiological test for *chaetomium globosum*.

QUERY: Any other important facts about DRAX?

FACT: Yes. DRAX meets the water-repellent requirements of certain Quartermaster textile specifications. Its high water-repellency helps improve hand. It is economical to use. Requires a minimum of regulating with organic acids during application.

Write for the facts about DRAX. Simply address:



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& SON, INC.**

Industrial Wax Division
Dept. TB-53, Racine, Wisconsin
Buy U.S. War Bonds and Stamps

Three Dimensional Seeing

(Continued from Page 16)

easy to keep clean while the light buff gave a high light reflection and consequently reduced eye strain in the work area.

In the textile plant the problem of grease and oil is not as serious as in the machine shop, but dust and lint would have to be considered. This means other combinations of colors may give excellent results. It is possible that more than two colors could be used, thus producing a combination pleasing to the eye in addition to improving the lighting.

In general it is believed that a study of work processes in any textile plant would indicate that much could be gained by the judicious use of color. The best combination would have to be determined by experiment, but there is ample evidence to indicate that the effort would be justified. Three dimensional seeing, the new science of lighting, holds possibilities of reducing accidents, increasing production and decreasing fatigue and eye strain when it is applied to processes and machines in the textile industry.

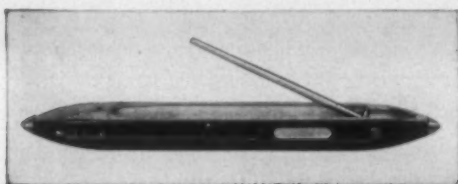
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H. REID LOCKMAN, Box 515, Spartanburg, S. C.



A NEW GIRT HAS BEEN ADDED TO THE ONE PIECE GUIDE AND CATCH

This girt, a new development for Watson-Williams rayon shuttles, stops the spindle from raising too high and thus prevents the top of the shuttle from splitting. It also holds the spindle level.

WATSON-WILLIAMS MFG. CO.

THE SHUTTLE PEOPLE • MILLBURY, MASS.

SOUTHERN OFFICE: W. F. Daboll, 810 Woodside Bldg., Greenville, S. C.

PACKAGE DYEING AND BLEACHING

All Type Colors on Cotton Yarns

PIEDMONT PROCESSING CO., Belmont, N. C.

Amended Order L-99 Expected To Increase Cotton Fabric Output

Production of cotton fabrics are expected to be increased by about 220,000,000 yards annually without the use of additional facilities or raw materials, as the result of an order issued recently by the War Production Board further simplifying constructions of a long list of cotton materials.

The increase in output—which is estimated at 10 per cent for the particular looms covered by the action—will be effected through assignment of the looms to production of only specified types of cotton fabrics. If the looms are not already working on these constructions, they must convert over within the period specified by the order—varying with each type of fabric.

Approximately one-third of all cotton looms—or 120,000 looms—in the country are affected.

In actuality, the order (L-99, as amended) now covers 55 per cent (220,000) of all the looms in the industry, since an earlier version of the order, issued last March 6, imposed similar restrictions on constructions for approximately 22 per cent of the total number of looms. Overall, it is estimated that a total increased production of 450,000,000 yards annually of cotton fabrics will be realized.

One effect of the order is to freeze production of all looms now producing birdseye and gauze diaper cloth. This means that these looms cannot be converted to production of other types of fabrics, assuring a continued supply of diaper cloth at the current rate of output.

Generally, the amended order provides for production of serviceable, utilitarian fabrics which at the same time meet all military and essential needs. Wasteful and unnecessary use of material is discouraged through restrictions on the closeness of weave and other construction factors. While fabrics will be lighter and less tightly woven, it was emphasized that the constructions decided upon have been carefully tested and proven durable and that both the savings of material and concentration of the looms of a limited number of fabrics will make possible the increased production.

Several additional types of cotton fabrics are now brought under the order, including all wide sheetings; narrow drills, twills, jeans, sateens and gabargines; all wide drills, twills and sateens; window shade cloths; pajama checks; bandage cloths; gauze and cheese cloths; broadcloth and poplins; diaper cloths; and miscellaneous print cloth yarn fabrics.

Among the construction changes required by the order are:

1. Sley and pick are reduced for osnaburg (used primarily for agricultural bags), which will lighten the weight of the cloth.
2. Fifty per cent of all looms operating on wide sheetings are converted to pro rata widths of narrow Class A and Class B sheetings.
3. In the case of so-called print cloth yarn fabrics the pick count is generally reduced and many fabrics are eliminated. In addition, by reducing the average weighted pick by nine per cent for such fabrics, the heavier, more tightly woven materials of fancy construction will be discouraged.
4. Pajama checks, used almost entirely for production of underwear for the armed services, are reduced in count from 88 to 80 square.
5. Bandage cloths are reduced in weight from 8.20 yards

to a pound to 8.60 yards per pound—a lighter-weight material.

Conversion of looms not already operating on the specified types of fabrics must in most cases be effected in from 45 to 90 days. However, production of fabrics listed on Schedule A of the order to meet specifications of the armed forces is allowed until July 1, while for fabrics on Schedule B, such production can continue until August 1. After that date, however, all production for military purposes must conform to the constructions listed in the order.

Restrictions on distribution of osnaburgs, and Class A and Class B sheetings, limiting deliveries to defense orders (unless otherwise authorized by WPB), are further extended to cover wider widths of Classes A and B sheetings not previously included in this provision.

Looms now controlled by the order turn out approximately 6,300,000,000 (six billion three hundred million) yards of cotton fabrics annually for the armed forces and essential civilian use. The entire output of the industry is estimated at 11 and a quarter billion yards.

Commenting on the order, Thomas B. Bancroft, chief of the cotton branch of WPB, said:

"This amendment to Limitation Order L-99 is another step in the overall cotton textile program to bring about the maximum production of serviceable cotton textiles per machine hour.

"As was the case with the amendment to this order of March 6, every phase of the changes in construction has been thoroughly explored, and for the most part a sample yardage made, tested and approved.

"Industry advisory committees representing those segments of the industry affected have been most generous with their time and intimate knowledge of manufacturing problems and all changes brought about by this amendment have the full knowledge and endorsement of these committees and of the armed services who have been most co-operative with the War Production Board in initiating minor changes in their specifications which will meet the new fabrics being manufactured.

"The manufacture of certain fabrics now being made to meet definite specifications for the armed forces may be continued under this amendment until July 1, 1943, on constructions specified in Schedule A and until August 1, 1943, on constructions specified in Schedule B, but in other cases conversion must be effected within 45 to 90 days. It is hoped, however, that buyers and sellers will so collaborate that conversion to the new constructions will be completed at the earliest possible date."

Firm Develops Shoe Sole Fabric

Bigelow-Sanford Carpet Co., Inc., of New York, announced recently it had developed a synthetic outer sole for shoes which it said would give 50 per cent or more "mileage" than leather.

The company said it believed the product, made of tightly-woven cotton treated under pressure with a synthetic resin to increase resistance to abrasion, heat and moisture, would become a permanent factor in the shoe industry.

Bigelow-Sanford said substantial orders had been placed for the new product, subject to granting of priorities by the War Production Board. Cost was said to be about the same as sole leather.

ONYX PROCESSING AND FINISHING PRODUCTS

Time is all important these War days. Products that will give better things and more of them—faster, are helping win this War. Onyx Processing and Finishing Products are Time Savers. They are setting new records in the mills and finishing plants of the Nation.

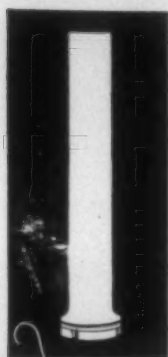
Onyx Processing and Finishing Products for all available fibers cover a range wide enough to meet conditions governing raw materials, production and war time restrictions. To textile manufacturers confronted with war time finishing problems, Onyx Research is available for consultation and real, practical help. They have helped others—they can help you.

Buy War Bonds and Stamps—
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Dixon's Patent Reversible and Locking in Back Saddle with New Oiling Device three Saddles in one, also Dixon's Patent Round Head Stirrup.

Send for samples

DIXON LUBRICATING SADDLE CO., Bristol, R. I.

United States Testing Co. To Conduct Defense Testing Course

For the fifth consecutive year, the United States Testing Co. announces plans for its yearly summer course. The success of all previous efforts, the timeliness, and steady demand for this type of study encouraged the company officials to continue these classes.

Begun as an experiment in better consumer-business relations, the course has found a niche in proving to be a practical training period in textile testing. This training has answered a need created in theoretical textile studies by giving students the opportunity to study and operate the latest of testing equipment.

This year, as in the past, students will have the personal instruction of the company's staff technicians working under the direction of G. R. Turner, supervisor of the company's textile laboratory and instructor of a course in textiles at Columbia University.

Planned to meet the current situation in textiles, the course this year will include studies of current textile theories and testing procedures by means of lectures and demonstrations with standard testing equipment. Emphasis will be placed on defense testing procedures and fabrics related to the war effort and students will be made acquainted with A.S.T.M., United States Government, Army, Navy and other standards. Instructions will cover fiber, fabric and clothing analysis, manufacture and testing. The identification origin and nature of the natural fibers, older and newer synthetics, such as the rayons, casein, vinyon, nylon, fiber-glass, and sample swatches for reference will be included. The testing of woven and knit fabrics for such factors as construction, thread count, fiber identification, tensile strength, seam slippage, color fastness to light, washing and dry cleaning will be the basis of this defense testing course. A study of the new testing equipment recently developed, such as the warmth tester, snag tester, crease resistance and crease retention devices, and various shrinkage equipment will also be an important part of the course.

Classes will be held during the company's business hours and will be in session from 9 a. m. to 4 p. m. from July 12 through July 30. There will be a small fee charged this year for the three-week period to cover the cost of supplies, mimeographed text and samples necessary for the student's laboratory work. The group of students will be limited in number, in order that they may have the advantage of individual instruction and opportunity to work with actual equipment. Those applying to the company at Hoboken, N. J., should have some elementary and textile training in order that some major portion of the three weeks may be devoted to an intensified study and use of testing apparatus.

The Riverdale plant of Acme Steel Co., Chicago, has won the coveted first place plaque in their group of the steel rolling and fabricating division competition sponsored by the Greater Chicago Safety Council. The presentation was made at the closing session of the annual convention held May 6 at the Hotel Sherman. C. E. Waddell, safety director of the company, accepted the award before a group of some 1,500 safety leaders. At the Riverdale plant, 2,350 people responsible for this fine safety record are employed in the rolling mills, machine shops, fabricating and steel strapping departments.

Women in Textile Selling? Don't Laugh, It's No Joke

From time to time, TEXTILE BULLETIN has published series of personal sketches of Southern sales representatives under the title, "Who's Who Among Textile Salesmen." If someone had suggested in pre-war days that the last word of this title in the future would have to be changed occasionally to the feminine gender, the suggestion would have been laughed off. At that time, it would have been as difficult to imagine a woman trying to sell dyehouse equipment, knitting looms or package tying machinery to a mill superintendent, as to believe Japan would ever attack Pearl Harbor. Of course we were wrong in both respects.



Mrs. G. G. Slaughter

Mrs. G. G. Slaughter, the subject of this sketch, has proved that textile equipment selling can no longer be classed exclusively as a man's vocation. Since the death about a year ago of her husband, who was widely known and highly regarded throughout the industry, Mrs. Slaughter has courageously and successfully carried on the business of Slaughter Machinery Co. of Charlotte, N. C., which he founded. Not only has she attended to the office details, but since her son, Edwin, entered an aeronautical school, she has done all of the selling, and has called on mills in Virginia, the two Carolinas, Georgia and Alabama. On her first call, she sold three items of equipment, which isn't a bad batting average in any league.

Mrs. Slaughter says she has been courteously received and shown every consideration at all the plants she has visited, and is convinced that mill managers have no objection to the entrance of a woman into a selling field which in the past has been occupied exclusively by men. Her only worry at first was her lack of technical knowledge about certain manufacturing operations, but the mill executives have been exceedingly helpful and this handicap is rapidly being overcome.

Slaughter Machinery Co. has the following accounts in the above mentioned states: Atlas Electric Devices Co., Fade-Ometers, etc.; S. Blickman, Inc., stainless steel equipment; B. H. Bunn Co., packing tying equipment; Cidega Machine Shop, Inc., knitting looms; Macbeth Daylighting Corp., color matching and cotton classing lamps.

U. S. May Clothe French Soldiers

General Auguste Nogues, governor general of French Morocco, said recently that American and French military authorities had conferred on a proposal to clothe French troops in Morocco in United States uniforms. The French, however, would wear their own military insignia.

General Nogues said that the cut of French and American uniforms were about the same and that the French were willing to wear uniforms of another country because of their great need for clothing.

Reporters at the Tunisian front have frequently seen French troops who appeared inadequately garbed against the severe mountain cold.

"There are thousands of French and native troops in Morocco eager to fight if they had but the clothing and equipment," General Nogues said.

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The KENTEX trade-mark on a textile-apron is your assurance of a *precision-built* apron—made by experienced employees in a new plant, with modern machinery largely of our own *exclusive* design.

A *sure fit* guaranteed for all systems. Write today for free samples and prices of KENTEX precision-built aprons.



TEXTILE APRON COMPANY

EAST POINT, GEORGIA

J. B. KENNINGTON, OWNER

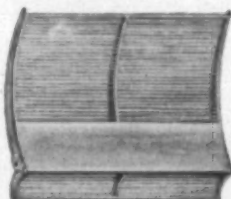
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Spinning Cylinders, Card Screens, Conveyor Pipe, Lap Aprons, Sliver Pans, Aspirators, Waste Shute Boxes, Gear Guards, Slasher Work, General Textile Sheet Metal Work

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C. A. Auffmordt & Co.

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Materials Handling Equipment Pays for Itself

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Rubber Wheels

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Elwell-Parker Electric Trucks
PORTABLE ELEVATORS

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ENGINEERING SALES CO.

BUILDERS BUILDING, CHARLOTTE, N. C.
ALLEN BUILDING, GREENVILLE, S. C.

S. C. Association Meets May 26

The Cotton Manufacturers Association of South Carolina will hold its annual meeting May 26 beginning at noon at the Spartanburg Country Club, according to Dr. William P. Jacobs of Clinton, executive vice-president.

The board of directors will meet at 11 a. m.

Because of transportation and other problems, the meeting will be limited to half a day. The program will include usual reports of active committees and election of officers and directors, but there will be no especial emergency matters to come before the association, no outside speakers and no set program, Dr. Jacobs said.

Present officers are J. A. Chapman of Spartanburg, president; S. H. Swint of Graniteville, second vice-president; Dr. Jacobs, who is also treasurer. The board of directors is composed of J. B. Harris, Greenwood; B. B. Gossett, Charlotte, N. C.; George M. Wright, Great Falls; H. K. Hallett, Paw Creek, N. C.; E. R. Stall, Greenville; C. B. Hayes, Lyman; B. F. Hagood, Easley; M. L. Cates, Spartanburg; C. B. Nichols, Anderson; M. P. Orr, Anderson; and J. E. Sirmine, Greenville.

Treating Army Lightweight Protective Covering Materials

(Continued from Page 20)

Mildew preventives (fungicidal compounds)—

Ahcopel O D	Arnold-Hoffman Co.
Fungicide G	Arkansas Co.
Aquatize	Aqua Sec. Corp.
Permicide	Refined Products Co.
Dowocides	Ciba Co.
Metanol	Hart Products Corp.

Acid resisting wetting agents—

Decerosol O	American Cyanamid
Penetrant LA	Arnold-Hoffman Co.
Penetrant A40	Standard Chemical Products

These products work nicely in organic acid bath showing around two to three pH, but the more desirable types are the special agents used in the preparation of naphthol bases such as Stabilon, Diazopon and Neomerpin. These agents possess great resistance to acid bath, mineral and organic as well as to troublesome chemical salts that would form in this neutralizing bath on the treated cotton netting.

Desizing agents—

Neozyme	Royce Chemical Co.
Degomma	Rohm & Haas Co.
Rapidaze	Wallerstein Co.
Exize	Pabst Co.
Rhozyme	Rohm & Haas Co.
Warcozyme	Warwick Chemical Co.
Diazofofor	Standard Brands

Alkali soluble cellulose compounds—

Ceglin	Sylvania Industrial Corp.
Permapon	Hart Products Co.
	Aqua Sec. Corp.

Urea formaldehyde resins and curing agents—

(Owing to the many trades names on these resins, the writer is listing some of the major firms now making and offering these finishing compounds to the finishing plants: Rohm & Haas Co., American Cyanamid & Chemical Co., Calco Chemical Co., Quaker Chemical Products Corp.)

The Cotton-Textile Industry South of the Rio Grande

(Continued from Page 10)

391 bales, and estimates for 1942 run as high as 340,000 bales. Increased consumption is paralleled by a drop in exports of unmanufactured cotton, even though its cultivation mounted so noticeably. Exports in 1929 were reported as 16,081 metric tons. In 1938 they totaled 20,781 tons, but 1940 shipments fell to only 5,238 tons. An increase was shown in 1941 when 12,871 tons were exported, but published official statistics for as late as the first eight months of 1942 report no export shipments.

For many years Mexico was a large importer of manufactured cottons. These imports have shrunk from year to year. Today commodities in this category are not even included in official records as imports, but are found in increasing quantities among lists of export commodities.

A resume of cotton manufacturing exports shows some interesting trends. In 1940, 4.7 metric tons of cotton goods were exported. These soared to 330.7 tons the following year. An almost phenomenal increase was registered in 1942, when during the first eight months alone 3,397 tons were shipped.

Cotton yarn and thread shipped by Mexico to foreign countries amounted to about one ton in 1936, 76 in 1940, 202.5 in 1941, and 415.5 tons in the first six months of last year.

Chile Enters Textile Field

Chile, with 2,900 miles of coast, has every variety of climate, and the range of plants that can be grown is practically unlimited.

At the dawn of the twentieth century this country was known as a non-manufacturing nation, but, later, industrialization developed so rapidly that even before the Western Hemisphere became involved in the present war, about 22 per cent of the working population was engaged in manufacture. In 1903 only 30,000 workers were employed by industry. By early 1942 this number had grown to 300,000, about 50,000 being connected with the textile industry.

Formerly all raw materials used in the cotton industry were imported, but in recent years cotton has been added to Chile's many crops, though still on a very small scale.

The cotton industry, exclusive of the knitting branch, was capitalized at 293,300,000 pesos in 1940. Mills numbered only 16 in 1936, but four years later these had grown to 40, employing 3,800 workers, with a yearly payroll of over 18,000,000 pesos.

Carded yarns of all types are spun within the country, reaching the high total of 8,000,000 pounds in 1939. The estimated production for 1942 was 11,000,000 pounds. This rise in quantity is closely paralleled by a rise in quality. Combed yarns are not as yet produced domestically.

Many types of cotton cloth are manufactured, satisfying a large part of Chile's needs.

One modern plant has a capacity of 15,000,000 meters of cloth per year. Another factory, with its modern machinery, claims even higher productive capacity.

To encourage native workers, a law has been passed stipulating that 85 per cent of textile workers must be nationals. Actually, it is reported that only two per cent are non-



Many a ball game has been won by pinch hitters and many a mill has solved a card clothing emergency by calling on Ashworth, for "we've got pinch hitters, too," in the form of—

3

FACTORIES which assure an uninterrupted supply of card clothing. If one factory is temporarily disabled, another factory can "pinch hit" for it.

6

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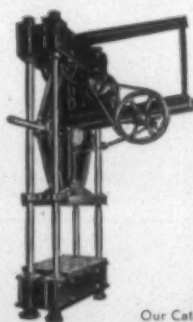
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Paraguay, situated on both banks of the Paraguay River, has excellent soil for cotton, which yields well and has become the country's chief money crop. It is the most important export commodity, accounting for about one-third of all exports in value. Under more intensive cultivation the crop could be stepped up immeasurably.

Consumption by Paraguay's two cotton mills has risen steadily, amounting to 458 metric tons in 1940 and 498 tons in 1941, most of which went into the manufacture of cotton cloth, as well as mattresses, mixed wool and cotton blankets, sugar and flour sacks. Cotton for use in tents and awnings is also manufactured in this country, aided by a favorable tariff.

In 1942 about 600 tons of yarn were spun yearly by two mills under continuous operation. The industry boasted 3,936 spindles and 126 looms.

To further stimulate production of bags, early in 1942 a governmental decree required the utilization of domestically made cotton sacks for transporting sugar and flour.

Rapid Advance in Colombia

Colombia, having taken advantage of its favorable soil and climate, is primarily an agricultural nation. Coffee is the leading crop, but by no means the only one, cotton also being important, particularly in the northern section. Under ideal climatic conditions this fiber grows with very little attention, but, if it were cultivated with more care, the yield could be increased materially.

In 1930 about 10,000 bales were harvested, but by 1937 production had increased to 40,000 bales. The 1942 harvest totaled around 37,138 bales.

Colombia's cotton-textile industry has developed rapidly in the past few years. In 1938 the country had 40,000 spindles, and in 1940, 15 mills operated 133,000 spindles and 4,854 looms.

Formerly production consisted primarily of coarse cloth, but the quality has improved perceptibly in recent years.

Cotton cloth manufactures amounted to 23,348,654 meters in 1936, and increased steadily each succeeding year until by 1941 total output was 89,063,758 meters.

About 4,396 metric tons of domestic raw cotton and 5,758 tons of imported cotton were consumed by Colombia's mills in 1939—also 30.5 tons of domestic yarn and 735 tons of foreign yarn. Imported cotton totaled 8,186 tons in 1940, and more than double, or 17,575 tons, in 1941—direct evidence of expanded production in textile plants. At the present time domestic raw cotton supplies about one-third of the requirements.

Venezuela's Mills

Although lying entirely within the Torrid Zone, Venezuela has varied climatic areas, determined by differences in altitude. Agriculture plays an important role in the nation's economy, despite the tremendous petroleum output, and employs about one-fifth of the entire population.

Cotton is raised along the Maracaibo Basin and to a larger extent in the highland region. Though not very extensive, this crop is profitable; and, to encourage production, the Government furnishes protection in the form of a high import duty.

The entire output is consumed by the country's own textile industry which is centered around Valencia. In 1939 cotton mills were operating 55,000 spindles and 1,371 looms. By 1942 ten spinning and weaving mills operated 67,300 spindles and 2,027 looms, consuming approximately 6,455 tons of cotton. To produce as much clothing fabric as possible; most mills are operating at full capacity, some having instituted a second shift. Output is concentrated on low-priced textiles.

Some Venezuelan weaving mills spin their own yarn, and manufacture finished materials such as cotton drills, blankets, sheeting, towels, sail cloth, hosiery and underwear.

With its splendid grass lands, Uruguay has developed along pastoral lines, rather than agricultural. Despite the absence of home-grown cotton, this nation has a flourishing textile industry. The first commercial mill was established in 1897, but the main industrial development was begun during World War I.

One progressive textile plant maintains an up-to-date day nursery for its women workers' small children. Laws have also been passed restricting the work week to 48 hours.

Formerly all cotton yarn used in the mills was imported. Today much of it is spun within the country (almost 2,400 tons per year), about 90 per cent of the necessary raw cotton coming from Paraguay.

Cotton yarn imports totaled 2,986 tons in 1940, and 3,443 in 1941.

Reliable sources indicate that 4,243 metric tons of cotton textiles were imported by Uruguay in 1940, and only 1,907 tons in 1941, as the home industry advanced.

Bolivia's Output Small

Bolivia, the "Switzerland" of South America, has about 5,000,000 acres devoted to agriculture, but cotton is not grown extensively. Total production for 1940 was around 81,680 pounds, and only 54,561 pounds in 1941, the decrease being due to a shortage of laborers. To stimulate interest a protective tariff was placed on imported raw cotton.

In 1940 cotton imports aggregated 2,186,673 pounds, but were much higher the following year, 1,681,053 pounds having been received in the first six months alone.

Two large mills in La Paz reported an output of over 8,000,000 meters of cotton cloth, sheeting, canvas, table cloths, towels and curtains in 1940. Spindles in operation in 1936 numbered 6,000 and looms totaled 250.

Cotton cloth totaling 1,716,289 kilograms was imported in 1940, the greater portion coming from Japan.

Cotton in Ecuador

Ecuador has a wide range of climate, depending upon the altitude. Therefore, it is a country of many agricultural possibilities.

Cotton is becoming an important crop. In 1930 only 7,000 bales were grown, and about 10,000 bales were produced in 1941. This crop has great promise, but at present Ecuador's agricultural interest is centered elsewhere. As a result Ecuador must turn to its neighbors for sufficient cotton to feed the mills.

Ecuador's oldest and most important manufacturing field is the textile industry. Cotton cloth was produced before arrival of the Spaniards, and remained a lucrative occupation until the eighteenth century, when it was eclipsed by

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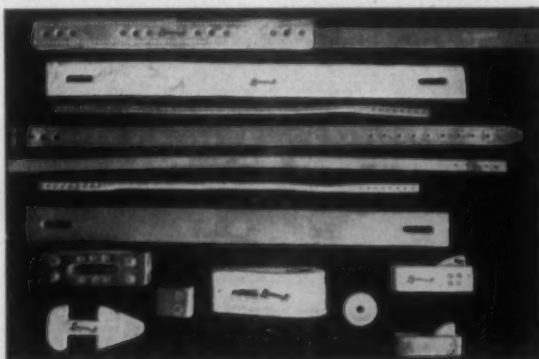


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competition from Europe. In recent years it has again expanded.

About 15 factories were devoted to the cotton industry in Ecuador in 1940, with a capitalization of about 14,000,000 sucres. Four mills were utilizing cotton and wool.

Between 6,000,000 and 7,000,000 pounds of cotton are consumed by these factories annually, in the production of yarns and piece goods. The quality has improved from year to year, and clothes made from domestic fabrics are replacing those formerly purchased abroad.

El Salvador and Guatemala

El Salvador's climate and soil are favorable for cotton cultivation. The 1941-42 crop was estimated at 2,000,000 pounds, while, after a record acreage, the 1942-43 crop is estimated at 5,000,000 pounds. To encourage cultivation, only domestically grown cotton may be used by textile mills. In 1939 this country had 10,000 spindles in operation, manufacturing yarn, fabrics and clothing. The five spinning and weaving mills consume perhaps 1,000 tons of raw cotton, while the large handicraft industry accounts for many additional tons.

Although cotton textiles have been the country's largest import item, its mills, by working continuously, seven days a week, are now supplying some cotton products to other Central American countries.

Cotton appeared among the early products of Guatemala. At this time the output is placed at, roughly, 1,500,000 pounds of ginned cotton.

The country's four cotton mills, with around 35,000 spindles, consume approximately 3,042,000 pounds of cotton yearly, in the production of yarn, sheeting, drills and denims for the low-priced trade. A small amount is also used in mattresses, upholstery and by native Indian weavers.

About 600 tons of raw cotton are imported annually from El Salvador, Nicaragua and Peru.

Expansion in Costa Rica

Costa Rica, an agricultural country, has numerous waterfalls which provide possibilities for power developments.

Many years ago cotton was cultivated, spun and woven into cloth, entirely within the country, by native inhabitants. However, as intercourse with foreign countries developed, and coffee, cocoa and bananas became important revenue crops, the small textile industry was gradually relegated to the background, cotton fields were abandoned and imported fabrics dominated the market.

It is claimed that textile fibers grown in any part of the world could be made to yield profitable results in some section of Costa Rica, with its variations of climate and soil.

Costa Rica's one commercial cotton mill spins its own yarn and weaves cotton cloth from domestic and imported fiber purchased from its northern neighbor, Nicaragua. The weaving mill consists of 80 looms and manufactures colored drills, colored and gray goods, ranging in widths from 26 to 54 inches, towels and knitted underwear.

About 2,640,000 pounds of cotton were grown in Nicaragua in 1940, and 2,376,990 pounds were exported. In 1941 production had increased to 2,962,300 pounds, while the 1942 crop was estimated at 3,000,000 pounds.

The country has three cotton mills, with 3,500 to 4,000 spindles, consuming about 150,000 pounds of raw cotton.

A fourth mill is now nearing completion, which will have a much larger capacity than any of the existing plants. Production will be centered on manta, a coarse cotton cloth.

Cotton goods make up the largest import item, supplied primarily by Mexico.

Some cotton is grown in Honduras along the Pacific slope. In 1940 about 41 tons were exported to El Salvador and Guatemala. The country has one small cotton cloth factory which operates some 20 looms. Underwear, shirts and trousers are manufactured in several other factories, mostly for domestic consumption.

Principal textile imports are thread, cloth and clothing.

A little cotton is grown in Panama but not commercially. Cotton goods form by far the most important item of import, piece goods accounting for about 70 per cent of the total.

Cotton has grown in Cuba for hundreds of years, and wild cotton is still found in some sections. However, as sugar grew in importance, and cotton was exported in large quantities from other countries, production of this crop was practically abandoned. Within recent years efforts have been made to renew cultivation, but progress has been slow, the output in the last few years ranging between 90 and 100 bales.

The domestic cotton-textile industry is gradually supplying more of Cuba's requirements. In 1925 nearly all cotton goods were imported. By 1940 all but 34 per cent were manufactured within the country.

At present cotton-textile mills operate more than 40,600 spindles and 1,024 looms, producing cotton fabrics, drills, osnaburgs, denims, towels, blankets, underwear and hosiery.

Imports of raw cotton for yarn totaled 2,256 metric tons in 1938 and 3,197 tons in 1939. Some fiber finds its way into upholstery and mattresses.

On "Hispaniola"

Unlike sisal, which is cultivated on plantations, most of Haiti's cotton is grown wild on the semi-arid plateaus and plains. It is harvested and brought to market in small lots. The plant attains tree-like proportions. It is ginned before export, and the seed is used in small factories for production of soap, cooking oil and lard substitutes.

The 1941 harvest comprised about 3,225 metric tons. In 1942 the crop was slightly lower, or about 2,468 tons. Approximately 60 tons are used annually for production of mattresses, and the remainder is exported.

As the new handicraft program develops in Haiti, more of the home-grown cotton may be used in hand weaving.

Entirely overshadowed by the Dominican Republic's "big three," sugar, cocoa and coffee, cotton has received little attention. Cotton fields are few, but some cotton is gathered from wild trees. Exports during the past 15 years did not exceed 150 metric tons in any one year.

At this time no cotton mills are in operation in the Dominican Republic, though the subject of establishing a factory has been considered at various times. Some raw cotton is used for filling mattresses and pillows, and as wipers for machinery in sugar mills.

For the past 20 years, Dominican imports of cotton goods averaged around 20 per cent of the total. Imports of cotton and manufactures in 1940 were valued at \$1,712,463, which increased to \$2,149,143 in 1941.



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